# University News

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Association of Indian Universities

# PERIYAR UNIVERSITY

SALEM-11

No.01/2003

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Date : 02.01.2003

Applications are invited for the following posts listed below in the prescribed form :

| Sl.No. Subject | No.of Posts | Reservation |
|---|---|---|
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| 2. Geography | One | |
| 3. Geology | One | |
| 4. Tamil (Language) | One | |
| 5. Chemistry | One | |
| 6. Bio-Technology* | One | On Deputation |
| 7. Environmental Science* | One | |

| Sl.No. Subject | No.of Posts | Reservation |
|---|---|---|
| II - Reader - Pay Scale Rs.12,000 - 18,300 / Lecturer - Pay Scale Rs.8,000 - 13,500 | | |
| 8. Bio-Technology* | One | On Deputation |
| 9. Environmental Science* | One | |
| 10. Computer Science* | One | |
| 11. Applied Botany (Medicinal Plants)* | One | |
| 12. Commerce* | One | |
| 13. Bio-Chemistry* | One | |
| 14. Bio-Informatics* | One | |
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*(*) The terms and conditions of deputation are as per Tamil Nadu Government rules. The applicants should send their applications through proper* channel. Deputation will be initially for a period of one year and likely to be extended thereafter

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**COST OF APPLICATION FORM :** Rs.100/- for direct recruitment applicants. For candidates applying on deputation basis application form will be supplied at free of cost.

**HOW TO APPLY :** Application form can be had from the Registrar, Periyar University, Salem - 636 011 in person or by post on requisition with a Demand Draft drawn in favour of "The Registrar, Periyar University, Salem - 636 011", payable at Salem for Rs.100/- (Rs.50/- for SC/ST candidates), together with a self-addressed envelope of 25 cms x 12 cms size with stamp affixed for Rs.30/-. The SC / ST candidates should enclose an attested copy of permanent *community certificate. For deputation candidates a request letter with a self- addressed envelope as mentioned above with Rs 30/- stamp*

**NOTE :** 1) The Syndicate reserves the right to fill or not to fill the posts. 2) Applications should be made only in the format prescribed by the University. Applications received after the last date will be summarily rejected. 3) Candidates already applied for the post of Professor (Sl.No 1 to 5) in response to this office Advt. No.36/2002 may send additional particulars, if any. 4) But candidates applied for remaining posts (on deputation basis) already in response to this office Advt.No.36/2002 and earlier should **apply afresh.** 5)Duly filled applications should reach the undersigned on or before **30.01.2003** Postal delay will not be accepted.

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# Teachers who do not enjoy Teaching

**C P S Chauhan**
*(Aligarh Muslim University, Aligarh-202002)*

Acquisition and dissemination of knowledge has been an integral part of human life and culture in India for centuries. The idea of education and teaching is perhaps as old as Indian culture itself. In the ancient times, teaching was considered neither a vocation nor a profession. It was a natural and pious duty of a certain class of people called Brahmins who performed it, not for earning money, but for discharging their social obligation as a sacred duty. Brahmins and other priestly classes/castes used to adopt teaching as their profession because of their cultural superiority and scholarship. Teachers enjoyed a respectable position in the society. Education was purely a private affair without any interference of the government. There was no provision of payment of salaries to teachers. The teacher-pupil relationships were extremely intimate and cordial. The students lived with the teacher in his house. The teacher also treated his students like his own sons and daughters, and other members of his family. Sir Philip Hartog (1938) has made the following remarks about this phenomenon: "I must say a word on that relation of *guru* and *chela*, of teacher to disciple, inseparable from the tradition of Hindu education. It is a relation of unselfish learning and devotion on the one side, of profound respect on the other. To the Brahmin *guru* teaching is no lucrative profession, but its own reward; the institutes of Manu forbade the payment of fees; the guru lived on a minimum and sometimes fed his own scholars; and we shall perhaps find the reflection of that ideal in what seem to us the absurdly low stipends of Indian teachers in primary schools. There is a tendency among some patriotic Indians at the present day to regard the old relation of *guru* to *chela* to be an ideal to which moderns might well aspire".

"The teachers never boasted of their academic superiority and scholarship. Dedication and simplicity were their most precious ornaments. About the dedication and simplicity of teachers during the pre-British period, Adam (1835) made the following remarks: "The humbleness and simplicity of their characters, their dwellings and their apparel, forcibly contrast with the extent of their acquirements and the refinements of their feelings. I saw men not only unpretending, but plain and simple in their manners, living constantly half-naked, and realizing in this respect the descriptions of savage life; and yet several of these men are adepts in the subtleties of the profoundest grammar of what is probably the most philosophical language in existence. They are in general shrewd, discriminating, and mild in their demeanor. The modesty of their character does not consist in abjectness to a supposed or official superior, but is equally known to each other".

### Teaching as a salaried Job

Teaching, which was supposed to be a noble and pious duty of educated and priestly classes, became a paid/salaried job during the British period when the system of Grant-in-Aid was introduced on the recommendation of the Wood's Education Dispatch in 1854. During the pre-British period, there was no system of state funding of education; schools/*maktabs* were attached to religious institutions like temples/mosques, and kings and other well-to-do people of the society provided funds in the form of donations and endowments. There was no system of payment of salaries to teachers, who maintained themselves on presents received from their students in the form of *Guru Dakshina*. The state system of payment of salaries to teachers started during the British period. It was in 1677 that the East India Company sent the first paid teacher to Madras for teaching English and Protestant religion. Thereafter, the sacred duty of imparting knowledge to the coming generations of the society became a salaried vocation, never to acquire the status of a profession like Engineering, Law and Medicine.

Teaching as a profession may not be attractive for many talented young men because of low social status attached to it and/or because of low salaries. But, education sector is one of the largest employing sectors of Indian economy. In terms of numbers also, teachers constitute a large chunk of the taxpayers, especially at higher education level. About 5.30 million people are involved in the teaching profession of which about 4.95 million are at school stage including those working in elementary and secondary level educational institutions. But, how many really enjoyed their job, is a million dollar question. Teaching is not simply a profession or a vocation; it a rich source of enjoyment, especially for those who enter it, not by compulsion of circumstances, but by considered and thoughtful choice. Those who enjoy classroom teaching do not remain absent; they do not look for non-academic assignments, and also, do not accept or expect pleasure posts/positions within or outside their institutions. But, what is the proportion of such teachers in our system? An answer to this question is partially given in the following remarks of the UGC (Annual Report 1959-60): "Many of the abler graduates coming out of the universities are lured away from the teaching profession by the more attractive salaries offered by the commercial houses and also by the relatively better salaries and opportunities in the superior services of the government. In consequence, the teaching profession usually attracts only two types of university men. One of these consists of young graduates who have genuine love for teaching and research and who, from a spirit of idealism, decide to adopt teaching as their vocation. Fortunately, there are still some young scholars who are prepared to lead a dedicated life. But, their number is constantly dwindling. The second consists of a large number of students of average merit who fail to get into more lucrative positions and enter the teaching profession not so much by choice as by the force of circumstances. The first type is rare, and the ranks of the teaching profession lend to be largely filled by the second type".

Although these remarks were made by UGC more that forty years age, yet the situation does not appear to have changed at all. Even now teaching is not a preferred career for most of the talented students coming out of our colleges and universities. Most of those who opt to join teaching career do so by the force of circumstances. Out of these also, many would leave the job at the first available chance of a better employment. How can such people enjoy teaching? But, such people certainly form a heavy burden, not only on the institution concerned, but also on the public exchequer. This situation is by no means peculiar to India alone. In some of the advanced countries like the USA also the situation is not very different. Encyclopedia of Educational Research (1982) published by the American Educational Research Association has explained the situation in the USA in the following words: "The most teachers over forty, especially if female, plan to stay in teaching until retirement, whereas 41.4 per cent of teachers under thirty are undecided about a teaching future. More significant, however, was the finding that fewer teachers are certain that they would enter teaching again, given a chance, with about 10 per cent of today's teachers intending to teach only until something better comes along, and five per cent more definitely planning lo leave the profession as soon as possible".

### Teachers who do not Teach

Looking at the condition of teachers today, it is difficult to believe the above remarks, or at least, their authenticity may be doubted. The generations to come, after reading the history of modern teachers, will scarcely believe the contents of the above statements. In fact, times have changed very fast. During our childhood, only some 35-40 years ago, we came across teachers who taught their students during nights without charging any extra fees other than their salaries, which fetched them meagre amounts. But today, hardly any teacher is ready to listen to his students outside the formal classroom situation. Teachers have started their own parallel schools at home and charge high fees for teaching the same thing that they are teaching in the colleges. Many of them are teaching regularly in the private coaching institutions and earning huge amounts. The amount of salary given by the colleges/institutions where they are employed on regular basis has reduced to the status of supplementary income or a kind of pension.

Though, teaching is not a preferred vocation for young graduates and postgraduates throughout the world, the situation is still worse in India where many young people take up teaching job to use it as a stepping-stone for a 'better' job. But, getting an alternative job is also not an easy task in view of the grave shortage of employment opportunities and the current socio-economic conditions. Therefore, disinterested people stay on in the job for longer periods and continue harming the system. The situation at present is that like any other industrial organization, an educational institution is a work place where teachers are the workers who must take orders from the principals or other administrators and carry them out. In turn, a teacher receives a pay package, which is barely sufficient to feed a single individual and not a family. That is why most of the teachers in the metropolitan cities are forced to find out some part-time job or undertake private tuition work. This tendency, when it results in large economic gains, becomes a source of greed and a habit. In the long run the economic returns become so large and lucrative that salaries paid by the school system appear to be negligibly small as compared to these gains. At this stage the situation becomes uncontrollable. The teachers consume most of their time and energy in private tuition/coaching and shirk their duties at school/college. Consequently, the standard of teaching at the institutional level goes down and people lose faith in the government run system of education and prefer to send their children to private schools or coaching institutions due to the unending pressure of competitive culture in the job market.

However, such teachers are easily identifiable in any educational institution as they normally exhibit the following behaviour pattern:

- Always trying to take up smallest possible teaching work in terms of number of periods per week.
- Not making adequate preparation before entering their class for delivering lectures, not to talk of devising or trying innovative methods of teaching.
- Usually, entering the classroom for teaching at least 10 to 15 minutes late.
- Discouraging students' questioning in the classroom in the name of strict discipline.
- Always looking for alibis for skipping their classes, and in the face of options, preferring other non-teaching work to classroom teaching.
- Always trying to develop/discover personal relations with the top-seated administrators with the sole objective of getting alternative remunerative work or *a pleasure post* in the administrative machinery.
- Always showing jealousy towards the popular/ good teachers.
- Tending to avail all kinds of long leave facilities and keeping a detailed account of all public holidays during the academic session.
- Attaching more importance to extra-academic remunerative work than to formal classroom teaching and research.
- Avoiding direct or indirect involvement in research activities and criticizing the research work conducted/supervised by others.
- Involving themselves deeply in the teacher-politics, contesting elections of unions/ associations or university bodies frequently, and trying to use such political platforms to their personal advantage.
- Associating themselves with one or more of the pressure groups in the university using it for promotions and other academic benefits.
- Always looking for opportunities to impress the administration by their apparently showy but deceptive behavior.

### *Role of Teacher Politicians*

A large majority of those who do not teach consists of teacher politicians. We can see some teachers around us always contesting one election or the other. Most of them are associated to national or regional level political parties. They also are capable of mobilizing students-support on caste-based, communal or regional chauvinism. Political parties who always try to involve students and teachers in disruptive activities in order to achieve their own petty political ends are causing the greatest harm to the system of higher education. But, such teachers manage to develop intimate relationships with those who matter in the given system. Above all, there are unions and associations whose sole function is to protect the interests of undesirable elements in the teaching and non-teaching staff of the institutions. Interestingly, those who do not enjoy teaching are closer to the administration than those who put in labor in teaching and research. They hold the key administrative positions and help the administration in running the institution. They get quick promotions mostly without writing even a single article in their lifetime and/or conducting or supervising any kind of research worth the name.

One reason for such a state of affairs is the rigidity of labour laws of the country. It is rightly stated that Indian labour laws are basically meant for protecting the interests of 30 million government employees, not only at the cost of public money, but also of disciplinary regulations. Once a person enters the teaching job in an institution set up and managed by the government, the regular payment of his salary and increments, promotions to the higher ranks and positions, and retirement benefits are ensured. When rules ensure and protect everything, why should one work hard?

### *Role of Apex Bodies*

Every social system has a built in self-correcting mechanism. When rules and regulations are either inadequate or ineffective, self-correcting mechanism operates to set the situation right. Perhaps, privatization of education, which has already started, is a self-correcting mechanism. Theoretically, the private institutions, with the exception of a few which have been set up for commercial purposes, are not supposed to hire disinterested and ineffective teachers so as to ensure that the quality of education imparted by them is not inferior lest they should be losers in the competitive knowledge market. Secondly, the interests of non-performers would not be protected in the private system because of the profit-oriented investment policy of those who set up the institutions. But unfortunately, in Indian conditions desired results are not being achieved because most of the private institutions are functioning on commercial basis.

The major fault lies with the bodies created by the government for controlling quality. The government of India has created several bodies like NAAC, AICTE and NCTE with the sole purpose of controlling quality by ensuring planned and coordinated development of institutions and exercising effective checks on commercialization of education. But, somehow these bodies could not achieve these objectives. The case of NCTE may be quoted. This organisation was set up by the government of India as 'a quality control mechanism' for teacher education and was accorded a statutory status for this purpose. The main function of NCTE, as spelled out in the NCTE Act of 1993, is to achieve planned and coordinated development of teacher education in the country and to stop its commercialisation. But, the results so far have been just opposite to what was stipulated in the NPE-1986. A few new developments are worth noting here.

- The number of secondary teacher training colleges/ institutions was 633 in 1994 when the NCTE started functioning. At present, the number has more than doubled, most of the new institutions having been started at the places/areas where they were not actually needed. Whosoever could create physical infrastructure, essential to fulfil the minimum norms, by dint of money power or could show it when the NCTE inspection team visited, was given permission to start a training college irrespective of the need of the concerned area. There are many untold stories about this process. NCTE had itself stated in one of its publications brought out by it in 1996 that there were areas in the country, such as the Northeast, where there was acute shortage of trained teachers mainly because adequate training facilities were not available. NCTE should have concentrated on these areas for permitting the establishment of new institutions. In spite of doubling the number of institutions, the imbalance that was noticed in 1994 still persists. This shows that quantitative growth of institutions has taken place, but it has been neither coordinated nor planned.
- Most of the teacher training institutions established by the private individuals/societies/trusts, and recognized and accredited by NCTE are functioning purely on commercial lines. Such institutions do not appoint qualified and talented teachers and do not pay them full salary, but charge high capitation fees from the students at the time of admissions. The capitation fee sometimes runs into lakhs of rupees charged in the name of NRI quota. This shows that since the inception of NCTE, commercialization of teacher education has increased and strengthened. Who is responsible for these lapses is everybody's guess.

In higher education sector, role of UGC in ensuring coordinated development of higher education and maintaining adequate standards in teaching, research and examinations is very important. In order to discharge its responsibilities effectively, UGC has been issuing guidelines to the universities and colleges along with definite time limits for their implementation. It is difficult to say anything about the status of implementation of these guidelines for want of dependable data, but it is believed that progress in this direction has not been satisfactory. UGC has also been issuing guidelines for recruitment and professional advancement of teachers from time to time, but unfortunately, these guidelines have been open to legal interference due to inherent and undesirable flexibility. Even UGC itself has modified its own guidelines several times. The national level examination conducted by UGC for recruitment of teachers in universities and colleges is also open to questions because of frequent shifting of the target date for its forceful and compulsory implementation. Now the latest position is that those who will have submitted their PhD thesis by December 2002 would remain exempted from qualifying the said examination and might be recruited as teachers in universities and colleges directly. The net result was that there was a flood of theses completed and submitted by the target date.

The schemes for professional advancement of teachers have also had their own impact on the system of higher education. Though, the schemes of MPS and CAS were formulated by UGC with good intentions, but universities implemented them in their own way. The net results has been that many of our friends rose to the level of professorship without acquiring the PhD degree and publishing even a single article in their lifetime. The less said the better. The sharp decline in the number of Centers of Advanced Studies and Departments of Special Assistance in almost all disciplines after 1996-97, when the recommendations of the Fifth Pay Commission were implemented, is a sufficient evidence to prove the impact of such schemes on academic performance of teachers. Recently, UGC (vide letter NO. F. 3-3/2000 (PS) dated February 21, 2002 addressed to Vice Chancellors) made a fresh attempt to ensure observance of minimum academic norms on the part of institutions of higher learning in promoting teachers to higher academic positions like Professor. Under the this, UGC has issued new guidelines for promotion of a Reader to the post of a Professor. Under new guidelines, a Reader would be considered and interviewed for promotion to the post of Professor only if he (i) acquires minimum eight years of experience as Reader; (ii) submits a self-appraisal report for five years preceding the date of eligibility; (iii) submits for evaluation five research publications including two books to be assessed by three eminent experts in the subject different from those to be included in the interview board; and (iv) clears the whole procedure by obtaining favorable assessment reports from all the three experts. The whole idea appears to be very impressive, but it will work only if it is ensured by UGC that universities would not be allowed to dilute the laid down procedure in the name of autonomy through decisions taken by their academic and executive councils. If this is not done, this scheme will also meet the fate of the earlier schemes. UGC has to be very careful about it because so far universities have been using autonomy mainly to dilute the academic norms laid down by it.

### *What can be done*

E L Thorndike, a famous behavioral psychologist, has suggested several laws governing human behavior and learning. These laws have been very effectively used in modification of human behavior. One of his laws suggests that any behavior (that is rewarded tends to be repeated. We should reward only those behaviors of any individual that we want to re-occur. This principle is universal and applies equally well on teachers and their profession. Good performance of teachers should be rewarded with advanced increments, timely promotions, research and publication grants, free health facilities, free accommodation, free education of children etc. On the other hand, withholding increments and promotions, frequent warnings and ultimate termination of services should be used to punish poor performance. If we reward under-performance or do not punish it, it will re-occur. While implementing the incentive schemes like those of career advancement, we should see that poor performance or non-performance is not rewarded. Reward may not enthuse the under-performer, but it will certainly discourage his fellow good performer. So, by rewarding under-performance we commit double-edged mistake and thus cause long-term damage to education system. Unfortunately, loopholes or lack of clarity in the schemes lead to rewarding under-performance. 'Flexibility' is a very attractive word but is vulnerable to misuse. 'Rigidity', on the other hand, is commonly considered as a bad word, but rigid rules cannot be easily misinterpreted and misused. Sometimes, flexibility leads to easy route. What is required is a set of rigid rules and norms for evaluation of academic performance of a teacher. The traditional phrases like PhD or equivalent' have been misused to the maximum. Even popular newspaper articles and/or write-ups in the college magazines have been considered equivalent to PhD or research paper just to benefit that favorites. While formulating incentive schemes, these things should be properly examined.

Recent opposition of the teachers of the University of Delhi, especially the teacher politicians, to the proposal of increasing workload should not surprise anybody. It is our cherished habit to oppose anything that tends to enforce accountability. We are in favor of all kinds of autonomy, especially when we are benefited from it, and opposed to all kinds of accountability. Similarly, another recent proposals of UGC that university and college teachers should be hired, on contract basis for three or five years is a welcome step towards betterment of the situation. But, it is not being digested by the vested interests, especially the teacher politicians who would be affected most by such a proposal. A committed and dedicated teacher need not worry about such proposals. It is a bad news only for those who do not enjoy teaching.

Teaching is a noble profession. It provides the individual an opportunity to render a great service to mankind. Teachers are not always respected, but good teachers are always respected. It has been rightly stated by a senior teacher that teaching profession is both a heaven and a hell. It is a heaven for those who command respect and a hell for those who demand respect. ❑

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# Internationalisation of Higher Education through Distance Mode

**Darshana P Sharma**
*(Directorate of Distance Education, University of Jammu, Jammu - 180006)*

Because of explosion of the population, knowledge and aspirations of the masses alongwith growing awareness of the benefits of education on their part, the welfare states all over the world are *thinking of alternative modes to provide higher* education to the masses. With the development of advanced information technologies such as computerisation, satellite communication, Internet, teleconferencing, video conferencing, online chat etc., higher education is bound to go for a shift in its mode, from conventional to distance mode, as distance education will provide for the multifarious needs of the masses and democratisation of education. Because of the use of technical media like print, audio, video, computer, Internet and satellite communication to instruct a large number of students at the same time wherever they live, distance education has become borderless in access and it has crossed national borders. Truly, information technologies have made the world to shrink into a global village bringing different cultures into contact and collision with each other. Information technology has set the trend towards consortia of universities providing distance education programmes off campus around the world.

Borderless delivery of distance education is likely to raise the questions of internationalisation of its content and other related questions of quality, relevance and student support services. This paper is an attempt to look at the internationalisation of the content of higher education and the related questions of its quality, relevance and student support services through distance mode.

## Internationalisation of Higher Education

International higher education has traditionally involved students from one country studying on campus at universities in another country. De Ridder Symoens (1992) describes the impact of the mobility of students and scholars at the middle ages. "The use of Latin as a common language and a uniform of study and systems, of examinations, enabled international students to continue their studies in one stadium after another and ensured recognition of their degrees throughout Christendom". Because of globalisation, the demand for higher education is growing. With this increase the number of students at universities outside their home countries is also increasing. According to the UNESCO estimates the number of these students grew from five hundred thousand to one million from 1970 to the mid 1980 and it was raised to 1.5 million by the mid 1990s (UNESCO, 1997). The United States of America ranks at number one with 32 % of foreign students on its roll, followed by France (11%), Germany (10%) and the United Kingdom (9%). In the mid 1990, 46% of these students were from Asia. IDP predicted (Blight, 1995) that the number of international students would rise to 1.8 millions by the year 2000 and to 2.75 million by 2010. It is expected that Asia will demand additional 800,000 international University places in the fifteen years 1995-2010. To cope with this demand for higher education, the countries have to expand institutions of higher education, which will not be a viable proposition because of the expenses involved. Distance education has brought an alternative mode of providing higher education. Students sitting at their own respective countries can access a course through distance education, which makes use of both print and advanced Information/Communication Technology for instruction.

The foreword to Higher Education in the Twenty-first Century, Vision and Action' states, "One must be alive to the fact that higher education can no longer be conceived solely in terms of national situations and culture. Research and training that are worthy of the name cannot hence-forth be conducted purely on local terms" (UNESCO, 1998). Internationalisation is a process of integrating an international/inter-cultural dimension into the teaching, research and service functions, of the institutions. (Knight, 1997).

### Internationalisation not to be confused with Globalisation

Globalisation of higher education involves a supernationalism that straddles national boundaries, ignoring cultural identity. Technology often goes hand in hand with globalisation, magnifying the threat. In contrast with globalisation, internationalisation of higher education recognizes nations and describes a process of interchange of higher education between nations. It involves partnership between nations, between national systems and between institutions. Without partnership, there is no international education.

### Strategies for Internationalisation

Internationalisation activities of higher education institutions involve the following activities.

- An organisation strategy for internationalisation
- International student programme
- Internationalisation of teaching
- Offshore and distance education
- Internationalisation in research.
- International technical assistance and training
- Providing international support services

The organisation strategy for the process of internationalisation of an institution includes the international context, culture and policy of the institution, its mission statements and corporate plans, its management and business plans, its organisation structure for internationalisation, its staff policies and its institution wide links.

An international student programme is central to internationalisation. The number and proportion of international students enrolled, geographical focus, institutional polices on enrolment targets, scholarships, modes of delivery including offshore and twinning arrangements, use of multi media and distance education methods and provisions of promotional information are the consideration for international student programmes.

The internationalisation of curriculum is the most important component of internationalisation of teaching. An internationalised curriculum is relevant to international students studying offshore. Internationalisation of teaching also includes staff exchanges, study aboard and student exchange programmes, joint degrees, credit transfer arrangements, the development of specialist centers that focus on relevant foreign language and the cultural studies and the institutional links, which facilitate these institutions.

Internationalisation in research involves a wide range of collaboration projects, institutional links and exchange programmes. These activities make extensive use of Internet and other applications of information technology. These projects are often funded by aid agencies and multilateral organisations.

### Internationalisation of Distance Education

Distance Education has been subject to four internationalisation influences:

- Other national systems have adapted and adopted the approaches and methods developed in one national system.
- Distance educational institutions have opened their doors at international locations.
- Collaborations and partnership between international educational institutions.
- Distance Education material and approaches have been utilised in twinning programmes and at offshore campuses.

### Adoption and Adaptation of Models by other National Systems

The British Open University was established in 1969. A number of universities the world over have been established on the model of the Open

University of U.K. Free University of Iran, established in 1973, Everyman's University of Israel, established in 1974, Allama Iqbal Open University of Pakistan established in 1974, Open University of Sri Lanka, established in 1981, Indira Gandhi National Open University, established in 1985, are a few to be mentioned. Since the last three decades, the distance Education Learning approaches developed in one national system have been adapted and adopted by other countries/regions depending upon the geographical, socio-economic and cultural unities.

### Borderless Distance Education Institutions

Distance Education Institutions have become borderless since the last decade. The widening catchment of distance education institutions has been driven by the same political, economic, educational and cultural incentives that led to the internationalisation of the universities. Advancement in information and communication technologies has been an additional factor in borderless delivery of education.

The British Open University has sought international markets having 25,000 students in 94 countries using 400 examination centres (Daniel, 1998). The Open University of Israel offered Programmes to 17000 Russian students. (Victoria, Semion and Svetlana, 1999). The Indira Gandhi National Open University has also sought international markets. It is providing courses in collaboration with partner institutions in many countries.

### Collaboration and Partnership between Educational Institution of different Countries

Distance Education is willing to treat institutional boundaries as permeable (Moran, 1998). Today, there are collaborations between Distance Education Institutions of different countries and among various institutions through the medium of international bodies and agencies such as the Commonwealth of Learning, European Association of Distance Teaching Universities, Asian Association of Open Universities etc. (Majulika and Reddy, 1996).

The specific mandate of the Commonwealth of Learning established in 1988 with its head quarters in Canada, is to encourage the development and sharing of distance education material, expertise and technologies for students throughout the Commonwealth and other countries. The mandate specifies that any learner, anywhere in the Commonwealth should be able to study any distance teaching programme available from any bonafide college, or University in the Commonwealth (Briggs *et. al,* 1987).

The Colombo Declaration issued at the Tenth SAARC Summit in 1998, emphasised the need for greater collaboration and cooperation among the member states to minimise the influence of constraints caused due to the inadequate material resources and underdeveloped human resources. SAARC Summit 1998 identified three areas of resource sharing (i) sharing of learning material (ii) sharing of expertise (iii) sharing of resources related to communication technology. Sharing of expertise would pave way for the provision of a wider variety of programmes and courses, and enable member states to learn from each others' experiences and result in quality assurance, for example in curriculum development,' production of audio and video lessons, material development, teleconferencing, infrastructure, staff training and development and research etc.

UNESCO's International Institute for Capacity Building in Africa (IICBA) has entered into collaboration with IGNOU. IICBA has introduced IGNOU's PGDDE programme in Ethopia with the objective of promoting awareness about the concept and utility of distance education in Africa and also to develop human resources for distance education institutions in Africa'. The Commonwealth of learning has awarded 100 Rajiv Gandhi Fellowship to Candidates belonging to 19 countries in the Commonwealth to enable them to pursue IGNOU's programme.

IGNOU and EDEXCEL foundation UK have entered into collaboration for Bachelor degree programme in Information Technology. As a result of the collaboration, in the first two years IGNOU will offer HND with delivery and quality norms of BTEC. From HND students will be eligible to progress to third year of IGNOU's bachelor degree programme in Information Technology. The quality of the programme will be jointly monitored by IGNOU and BTEC to ensure conformity to international standards. The programme will be through distance learning supported by lessons via satellite based teleconferencing mode, multi media and Internet. HNDs are work related qualifications and are accepted world wide for employment. These qualifications also provide progression to degree programmes in the UK.

A Memorandum of collaboration has been signed between the Ministry of Education and Science, the Republic of Armenia and the Indira Gandhi National Open University New Delhi, to support mutual development of education and Training. Both the parties will jointly establish a network between different Universities and other institutions of learning in the Republic of Armenia and India which are involved in related activities in the field of higher education and research and to provide for exchange of academics and other functionaries between IGNOU and the Ministry of Education and Science, the Republic of Armenia, from time to time, in different sectors of higher education.

## Off-shore Campuses

Distance Education follows the principle of flexible delivery. It provides facilities to the students to study at their places. Following this strategy British and Australian Universities have developed off-shore campus models extensively in countries such as Singapore and Malaysia to offer twinning programmes. As described by Lewis and Pratt (1996:211), the general characteristics of twinning programme in Malaysia are:

- A local private college provides the equity for campus building, the administrative infrastructure, employs local staff and is responsible for obtaining approvals from the Ministry of Education.
- A foreign sponsoring university provides intellectual property in curricula and academic staff expertise.
- Students spend one or two years studying at the local private college in Malaysia while concluding their degree study in the final year(s) at the foreign University.

The Indira Gandhi National Open University of India has also opened its study centers beyond the national boundaries for providing higher education in the Gulf, the Middle East, Africa and the West Asian countries. Management Programmes, Bachelor's Degree Programmes, Computer Degree Programmes, Tourism Studies, Library and Information Sciences are some of the programmes offered by IGNOU abroad through partnership between the Indira Gandhi National Open University of India and Education Institutions of those countries. Under the partnership, a local institution provides the study centre's building, the administrative, infrastructure employs local staff and academic staff (programme Counsellors). Curriculum package is offered by IGNOU which has the same weightage as attached to the home courses. Besides the print material, Indira Gandhi National Open University India also extends its Internet and teleconferencing facilities to the study centers abroad. The degree/diploma is offered by the Indira Gandhi National Open University.

## Policy Issues

A number of issues need to be addressed in the context of internationalization of higher education through distance mode.

## Quality and Student Support Services

International delivery of distance education and off-shore campuses raise specific issues of quality assurance and students support service. Every Distance Education Institution which enters in collaboration with partner institution abroad for promoting its courses and programmes should establish an apex body like that of the Quality Assurance Agency of UK or the Distance Education Council of IGNOU of India to deal with the quality concern of distance education programmes. Quality and effective student support services can be guaranteed if:

- The awarding institution manages to send its staff on regular visits to the partner institutions abroad for supervising the academic programmes being offered.
- The awarding institution is well informed on the management of programmes being provided under collaboration of the two institutions (home and off-shore).
- External examinations leading to the degree/diploma are conducted in accordance with the requisites laid down by the awarding institutions.
- Academic and administrative staff of both home and overseas institutions exchange visits to ensure smooth monitoring of the programmes.
- The Degree awarding institution is either actively involved in the appointment of local staff (administrative/programme Counsellors) or is properly informed about the appointment of local staff overseas.
- The Courses are offered at the partner institutions with same content as are offered at home places with the same range of subjects.
- Proper provisions for maintaining overseas students' records are made.

- The procedure of assessment and evaluation of the overseas students' achievement is comparable with those of the home.
- Proper provisions and procedures are laid down for making students' complaints, appeals and grievances to the awarding institution.
- Award of scholarships to the students of partner institutions.
- The respective government of the partner/ collaborating institutions can introduce quality assurance mechanisms.

## Content and Form of Curricula

There is intense relationship between international students programmes and internationalisation of content and form of curricula. International content can be incorporated in the curriculum of international distance education programmes by making the following provisions:

- Case studies drawing international examples can be incorporated.
- Assignments involving search from the web can be assigned .
- International staff exchange programme can be promoted by the universities with off-shore partners. This will help in sharing of ideas and curriculum development. Distance Education material can be developed in collaboration with international partners.
- As a part of the degree programme, option for language studies can be incorporated in the curriculum. It will give international bias to curricula.
- Awarding universities should promote and support international study tours and fieldwork of the students.
- Use of new technologies can be made for the virtual internationalisation of the form of curriculum. Sharing of communication technologies through teleconferencing, audio conferencing among major institutions of partner countries can lead to internationalisation of curriculum.

In summing up, Dhanranjan's (1988a) views for the future of distance Education in the internationalization of higher education are worth quoting: "The 21st Century will witness, I am certain, the number of Pan-global open learning systems. They don't necessarily have to be funded by the public purse but by entrepreneurs who will work in partnership with other like-minded individuals or public funded institutions, which will not impede the movement of students, courses, learning materials, credit and staff. Partnership of the 21st Century cannot be about territorial preservation (Cyber space doesn't recognize this), it will be about student volume and economics, learner choice and autonomies, mobility of jobs, explosion of knowledge and technology and interdependency and universalisation".

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# Openness in the Open and Distance Learning System Today

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It is increasingly being felt that professionals in Open and Distance Learning institutions should strive for an appropriate strategy to contribute towards the evolution and consolidation of Open and Distance Education in India. The basic objective of this discussion paper is to initiate a healthy and fruitful discussion among professionals who are a part of this system of education keeping in mind the basic objective of an enriching outcome.

The world is changing by the minute as change is the only constant factor. The millennium of change has arrived and the Distance and Open Education system of the nation needs to change or face extinction. The choice is ours but certainly under public scrutiny. It is strongly believed that "Every university needs to be a 'learning organisation' wherein human resource development is brought to the centre stage of all activities, and which has the collective ability to 'manage change' (Dikshit-2002). How is this to be achieved? Let us debate the broad issues involved in it.

## Food for Thought

In the Indian context, Open and Distance Learning / Education (ODL/E) institutions are still in the stage of evolution. The need of the moment is therefore to initiate open-minded discussions that will help us broadly outline the exact role and responsibilities, vision plus the mission of such institutions.

It is increasingly being felt that the professional in ODL institutions should strive for an appropriate strategy to contribute towards the evolution and consolidation of Open and Distance Education in India. The basic objective of this discussion paper is to initiate a healthy and fruitful discussion among professionals who are a part of this system of education keeping in mind the basic objective of an enriching outcome.

The issues dealt with herein are supposed to set the future agenda for ODE in the 21st Century. While undertaking this sort of exercise regarding higher education in the face to face educational system, it is perceived and emphasized that: "In this age of knowledge it is the intellectual capital—trained manpower rather than financial and physical capital, which will give the society strength and prosperity when knowledge educated people become important strategic resource for development for the 20th Century". (Venkateswaran S. 2000).

Let's start a healthy debate that enlightens our minds and shares ideas and experiences with each other on the basic assumption that: "Even if we disagree let us debate with open mind, in the open forum provided by the open institution." (V.S. Prasad-2001).

## Let us set the Ball Rolling

The 19th Century is universally accepted to be the century of industrial revolution and the 20th Century, the century of information communication technology that could as well be the broad agenda for the 21st Century. When we talk of the broad assumptions for the 21st Century, this is a century of these probable issues. These issues are to be dealt with experience, practice and by reflective self-critical thinking. The policy makers emphasis that " each one of us—as an educational leader, manager, teacher or a policy maker—has to respond to the provision of individualised mass education, with greater quality, lower cost. To meet such experiments, our universities have to restructure, reengineer and reform (Dikshit-Panda and Garg-2002). Here we make an honest attempt to take a close look at the issues that have the potential to decide the relevance and purposeful existence of ODL institutions in the nation.

## Why do We need to Change?

Of late ODL institutions in the nation have gained an acceptance and credibility throughout the nation basically because almost all these institutions are state funded, autonomous public institutions. The basic structure of ODL institutions in India, comprises 64 dual mode distance educational institutions, nine state Open Universities, one National Open University, one National Institute of Open Schooling and five Open Schools in various states. The total enrolment in these open schools is around two lakhs and the number is swelling by the day. "Universities treats distance education as a kind of milch cow for the formal system of education "(Amrik Singh-2002) rather then promote quality of education.

So, should it be presumed that it's going to be a smooth sail all the way? No, certainly not. This honeymoon with success and popularity is going to end up in an unpleasant divorce if we do not wake up and take note of the emerging challenges.

Whether we accept it or not, we have to live with the reality that the Open and Distance Education has been globalised and commercialised having acquired the shape of a commodity where the 'after sales service' (Simpson-2000) is as important as the product or the service itself. It would be quite apt to mention in this context that -"If education is viewed as shaping and sharing of resources for long and short-term for productivity, it is the productivity of the problem that counts and that in turn depends on their ability to gain knowledge, create knowledge and transform knowledge into wealth". (IDEA-Kulandaiswamy, 2000)

These institutions are under quality test from private profit funded educational institutions along with public institutions. After years of monotony and staleness the moment of reckoning has arrived. Thus, in the current scenario it is all the more prudent to chalk out the future course of action in order to evolve better institutional practices. To quote: "The country is already facing its Himalayan problems of poverty, illiteracy, under-development and poor quality of life of larger sections of the society along with the big issues before learning societies". (Takwale-2001).

In this background an agenda for Distance and Open Learning Institutions is all the more important. Keeping the emerging challenges in mind, Indira Gandhi National Open University (IGNOU) has recently replaced (IGNOU-Vision and Strategies-1996) and evolved a new comprehensive document on its vision and mission (IGNOU-2002). This indeed is a positive step taken in the right direction since IGNOU is universally acknowledged to be the apex body with regards to ODL education in the country.

## Blind Imitation of the West does not really help

Imitating the West and adopting the western methodology to study Indian society, has become predominant in our system of learning instead of trying to evolve our own understanding based on generation of learners. While the West's sincerity, commitment towards work and dutifulness are highly appreciable their framework to understand postcolonial societies needs to be given a second thought.

One of the strongest views against education is that our education is mostly descriptive rather than prescriptive; the broad trend is towards highly conservative rather than progressive. The basic reason why, even after 55 years of independence, we are unable to give adequate perspective to understand our own society and the role of education. It is in the context that in Latin America, we witness Dependency theories in Economics (Andre Gunddar Frank-1996), De-Schooling Society (Ivan Illich 1973), Positivist focus on pedagogy by imposing confidence on school and as an instrument to raise the awareness of the people (Paulo Freire-1972), De-colonialisation of applied social sciences by De-elitisation, De-mystifying and by De-colonialisation (Stavanghan-1971), and in Africa social literature comes under Commonwealth literature. But in India, we have not yet witnessed any structural breakthrough in theory and in practice of pedagogy expect 'Brahmincal exclusiveness' (M.N.Srinivas-1962) proposed by sociologists.

Above all, the whole education process has not been provided the confidence to evolve its own value framework with the frankness to confess the deficiencies of its practices. This could lead to a better understanding of ourselves, develop leaders within the educational institutions and finally, prevent individual glorification and institutional decay.

## More so in the context of Open and Distance Education

It has been felt that in India we have more distance and open education rather than distance educators. Distance education in India is mostly viewed as a mode rather than a philosophy. The scholars professionally meant to promote distance education should undertake this ODL business seriously and evolve proper teaching learning techniques to empower open and distance learners. While evolving curriculum design and instructional designs in ODL institutions, a serious base work must be done to ascertain as to who our learners are and what is their socio, economic, cultural, linguistic, regional and educational profile and the societal needs and evolve curriculum and instructional designs.

Otherwise, it is said that the ODL institutions would be giving *Biriyani* to an infant and logically the argument leads to the conclusion that the ODL learners are sub-standard. This attitude and practice must be given up. Hence, the teachers working for ODL institutions should evolve serious baseline research to understand distance and open learning in indigenous context.

The theoretical models borrowed and proposed by Europe were basically Eurocentric. It is high time to give up Eurocentric models in distance education. In India, either in the face-to-face learning system or in distance education, we rarely follow the instructional designs that suit a particular target group.

Sometimes we also observe paternalistic attitude in the teachers inherited by crude Brahmincal traditions. "Teachers as knowledge workers (Peter F Drucker-1990) need to create a confluence out the expertise of others and their own experience".

### Programmes with a Difference to bring about a Difference

It is believed that there is enough scope for experimentation in the open and distance education. These institutions can go about any experiment on a pilot basis, for which these institutions do not need the service of regular employees. They can hire staff and launch the programme. If the experiment fails, the institutions can give up such a programme. If it is successful, it can be appropriated. By undertaking experiments in these institutions, we would not lose anything.

The programmes offered by the ODL institutions are simply replica of face-to-face institutions. This criticism is true to some extent that in the initial stages ODL institutions followed the conventional route because these institutions had to create credibility at par with the exiting face-to-face institutions. Besides, these institutions had to cope with the prospective learners educational bias to consolidate its position in the educational market.

This criticism is not valid today since the ODL institutions have evolved courses in various sectors, cater to the needs of awareness through certificate programmes, provide continuing education in the form of diploma and postgraduate diploma, general education degree programme, updating qualification degree, postgraduate and professional programmes in the areas of health, engineering and technology, bio-information technology.

Achievements in these areas are commendable but these institutions should also evolve mass awareness and improve their day-to-day functional skills otherwise things would take a turn rightly summed up as Prof. G. Ram Reddy puts it: "Elitism in education and Democracy in Politics do not go together". There is enough scope to expose mass based/non-conventional programmes for masses and that should be a serious agenda for distance education in the 21st Century.

### *Use Media and Communication Technology to our Advantage*

The issue to be debated is, should media dominate the method or should method dominate the media. The answer is simple. Media is a tool and method is the master. But excessive dependency on media would result in the creation of a new class of people. The problem is that this new commnication technology enabled society is going to create a "new class of IT-have-nots" (Takwale-2000). An info-centric practice should be avoided and the search for an appropriate media, keeping in mind the target group and their accessibility, is important.

Media professionals should be sensitive to the instructional design and curriculum objectives must be linked up to media issues. It is important that media, including "E-learning, should not be preached as a religion but be made one of the important, relevant and useful devices to practice" (Satyanarayana-2002). The developing countries cannot afford to have electronic gadgets as ornaments on a teacher's table.

We need to seriously ponder on these issues:

- How can we exploit newer ways and means to face the problem of educating all, particularly those still un-reached?
- Are our organisations and structures capable of quickly adopting to change in response to the changing needs and aspirations of the society?
- Convergence will enable us to eliminate the differences and distinctiveness of modes and all types of delivery of education one can visualise, even the convergence of formal and informational education.
- It is high time to provide web sites for all open and distance educational institutions.
- Online course must be introduced and must consolidate the existing ones.
- How we should device institutional mechanism to facilitate pedagogical and administrative flexibility in ODL system.

## Learn to Share and Share to Learn

ODL institutions are public funded. Hence, sharing of resources is important since it helps avoid duplication of courses / programmes. This makes practical sense because these institutions are ultimately working towards a common objective drawing their resources from a common fund i.e. the state coffers. All the Open and Distance Learning institutions need to evolve a common agenda at the national level not forgetting the local needs.

To share resources and information/expertise, various kinds of media is to be used appropriately, collating information models and innovations are important in the sharing of resources. This can become a possibility only by creating web sites for all the Open and Distance Educational Institutions by the apex agency and updating them regularly to disseminate the information. The existing Distance Education Council Advisory Body comprising academicians from most of the ODL system and recent ideas to evolve inter-university consortium for research in ODL is indeed commendable.

## *Proper Training can help conquer Distances*

Ever since Indira Gandhi National Open University came into existence as a result of the National Education Policy (NEP-1986), teacher training in higher education has gained importance. Training for all the functionaries involved in distance education is of utmost importance since distance education does not get trained manpower. To train people towards distance mode is an important agenda before the Open and Distance Educational institutions. To meet larger demands of training, IGNOU has launched a programme named Post-Graduate Diploma in Distance Education (PGDDE), further developed as Master of Arts in Distance Education (MADE).

These programmes are aimed at developing skills of application of learning into professional practices among the future torchbearers of distance learning. The aptness of the programme can be gauged from the fact that recently, PGDDE Programme was awarded the 'Centre of Excellence' by the Commonwealth of Learning (COL). Currently there are more than 1500 PGDDE Degree holders who have successfully completed the programme from different educational institutions in India and abroad. All these degree holders' service and expertise can be utilized at the national level.

Distance Educational Council (DEC) as an apex body can coordinate all these people for system development. Such attempts will broaden the network of training strategy, whereby the monopoly of training strategy could be minimized. At the apex level, Training Institutes can conceptualize, provide vision, and play the role of a facilitator rather than playing the role of trainers. This trend would help empower trainer into trainee, value experiences from trainee or trainer, sharing experiences, learning from others and valuing our own experiences is all important in trainee and trainers levels.

All Institutions have their subjective experiences, models, understandings, and their conceptual validations in the course of experience. Sharing and valuing others and ours experiences are important agenda/issues and inputs to the training needs of Open and Distance Education Institutions. This is a collaborative attempt to be initiated by the apex levels. Finally, all the areas of training such as induction of learners, newly recruited functionaries, both teaching and non-teaching inducting into the system, orienting and reorienting different levels of part-time, full-time academic and administrative staff should have a common agenda that is broadly called as oneness of communication.

The oneness of communication denotes that right from part-time sweeper/security staff to chief executive of the university's dialogue would be the same about the system and its process. This is only possible when the master trainers evolve desirable trainer traits, such as being academically pragmatic, functionally adoptive, professionally competent and committed to learn daily from the system and its process. Finally, as a master trainer and as a leader, he should accept the trainee as a trainer and should have faith on him and should go together with variety of people to learn the unlearnt.

## Research and refine our Ideas

Research is one of the most neglected areas in Open and Distance education. So far available research on Open and Distance education is suffering from structural constraints. Structural constraints such as lack of data, learner's profiles, committed and competent staff to undertake research and the funding pattern unlike market research.

It is unfortunate to note that education in public sector is successful but prosperous in private sector; the public sector is still evolving to consolidate its mandate. Quality assurance and quality management combines total quality management; the feedback received through research would be useful to evolve structural breakthroughs in existing curriculum. This would also enable us to check into the theory, practice and praxis in distance education.

Based on the studies ODL institutions can evolve appropriate benchmarks in various areas of Open and Distance education. It is high time to undertake action research in ODL institution, which are purely on the functional issues, covering various activities of Open and Distance education. This is possible only when the institutions are committed to the task of improving upon the system and practices and compiles baseline data from the institution and baseline survey from various, categories of target groups. These baseline researches would be reviewed every three to five years of time to strengthen the system. Such data would be useful for the purposes of feedback, revision and review; above all, it would also help identify strengths, weaknesses, opportunities and threats (SWOT-Analysis).

### *Innovation is the Key Word*

IGNOU strives to promote in its vision as - " 'Quality education'. Towards this end, we require skill up gradation and training of all through the use of innovative technologies and methodologies along with the convergence of existing systems. This shall help in the development of massive human resources required for promoting integrated national development and global understanding". (IGNOU-2002).

### *How can Teachers contribute in the Changing Scenario?*

The masters of the trade, teachers, have acquired a very important position to act as agents of change in the changing scenario. The changing times demand a change in attitude, professional dimension as well as skills. In India, the attitude roots lie in the past oriental culture something that was not transmitted uniformly to all strata of the society. The inequality in distribution of intelligence is one of the major hindrances in the evolution of India into a knowledge society.

The role of the teacher is a topic of relevance in the present context. The emergence of globalisation and Information and Communication Technology (ICT) advancement has paved the way of liberating knowledge from the clutches of elites. This is the era of access to knowledge, but the need of the moment is to integrate knowledge with human intellect for human empowerment. In the present day, the demand is not of tons of knowledge but an ounce of integrity. Integrity is the direction and also a view and way of life.

Hence the teacher, irrespective of his point of view should be open about his point of view and be frank in his value framework in order to be clear in his/her framework without confusing others. It would be appropriate to quote - "The modern teacher ought to possess the traits of a cultural teacher to protect the values of the society. Similarly, to survive in the market, he ought to be competent enough to show a direction to the market and also his learners. And finally, he cannot afford to neglect techno-managerial skills as a corporate teacher."(Satyanarayana-2002)

### The Final Word

ODL could be considered as a reform and also a movement in higher educational system to strive for higher accessibility, greater flexibility and a dream to realise educational equity. It is appropriate to quote the prevailing administrative culture wherein "People are committed but not competent, some are competent but not committed and some are neither competent nor committed, but the institution requires both committed and competent". (V.S. Prasad-2001). In this given background, people working for distance education must be creative and ever evolving themselves into professionals which requires professional skills and utmost competence and commitment to vanguard the Open University Philosophy.

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# CALENDAR OF EVENTS

| Proposed Date of the Event | Title | Objectives | Names of the Organising Department | Name of the Organising Secretary/ Officer to be contacted |
|---|---|---|---|---|
| Feb. 17-26 2003 | Training Course on Computer Application in Social Sciences | Introduction to the computer Data structure and data retrieval etc. | Centre for Social Studies, Surat | The Course Director, Centre for Social Studies, South Gujarat University Campus, Surat-395 007, Phone : 0261-3227173/ Fax: (0261) 3223851: or mail to: css-surat@satyam.net.in |
| Feb. 22-23 2003 | International Conference on 'Quality Improvement in Educational Systems' | To identify the Quality Management Techniques, which have been successful experiments in Higher and Teacher Education. To evolve strategies for balancing concerns about quality with ongoing efforst to increase access, reduce inequalities and manage resources efficiently | National Assessment and Accreditation Council and the Department of Education Technology, Bharathidasan University | Dr. R. Karpaga Kumaravel, Head, Department of Educational Technology and Director I/C. UGC-Academic Staff College, Bharathidasan University, Tiruchirappalli-620 023. |
| Mar. 15-16, 2003 | New Horizon: Challenges and Career Opportunities in Home Science | To bring about awareness of Home Science and to explore the vast career opportunities in Home Science and its related fields | Dr. Bhanuben Mahendra Nanavati College of Home Science (affiliated to S N D T Women's University, Mumbai) | Dr. Meena Mehta<br>Dr. Bhanuben Mahendra Nanavati College of Home Science Matunga, Mumbai<br>Phone: 224095792<br>Fax: 224095792<br>E-mail: smesdu@bom3.vsnl.net.in |

# Science in India : Looking Back and Ahead

**Padmanabhan Balaram, Professor and Chairman of Biological Sciences, Indian Institute of Science, Bangalore delivered the Convocation Address at the sixteenth convocation of the University of Kalyani, Kalyani, West Bengal, on November 25, 2002. He said, "Teaching and research are two sides of the same coin, but in our surroundings these activities are often divorced from each other. In assessing basic research output, one imperfect parameter has been the quality of scholarly publications that are indexed and counted in international databases, most notably the Science Citation Index of the Institute for Scientific Information, Philadelphia. A disturbing recent analysis has shown that over the 20 year period of 1980-2000, India's published output has remained stagnant, while countries like China, South Korea and Brazil appear to be showing a marked upward trend of output." Excerpts**

I believe that at times it may be valuable to reflect on the course that the practice of science has taken in our country, over the past century. I am also fully conscious that many of you who will receive degrees today, will do so in disciplines other than science. But, I do believe strongly that wide appreciation of the role of science in transforming our lives and its undoubted limitations in many spheres of human activity merit discussion both among scientists and non-scientists. Today, I would like to focus attention specifically on the state of science in India, particularly as it is practised in academic institutions. In doing so, I am acutely conscious of my own limitations, both of experience and perception. In spending the last 29 years at the Indian Institute of Science, I have been sheltered from the increasingly difficult situation faced in the science departments of our universities. But, my association over the past dozen years or so with Current Science, our country's most widely circulated interdisciplinary science journal, has provided me with a unique opportunity to correspond and interact with scientists from diverse institutions across the country. In considering what I have to say, you will undoubtedly realise that my views are distorted by the prism of my experience. In speaking to you, I am forcefully reminded that modern science in India flowered first in Bengal.

## Birth of Modern Science in India

English has become the language of modern science. Raja Rammohan Roy established an English school in Calcutta (now Kolkata) in 1817, nearly two decades before Thomas Babington Macaulay wrote his famous 'minute' of 1835, which created an English speaking class, from which many of our scientists were to be drawn in the early years of the 20th Century. Although, Kolkata lost its status as the capital of British India over ninety years ago, when the seat of the imperial power moved to Delhi, the city has been the capital of science in India through much of the last Century; its most glorious moments falling in the last Century, when Jagadis Chandra Bose, C.V. Raman, Meghnad Saha and Satyendranath Bose raised Indian science to a height, which has since remained unmatched. Even earlier, P.C. Ray had demonstrated that Kolkata would provide the cradle for the growth of science in modern India. Two of India's most far-sighted institution—builders, Mahendra Lai Sircar who founded the Indian Association for the Cultivation of Science, where Raman discovered the effect named after him, and Asutosh Mukherjee who raised Calcutta University to the position of one of our country's finest institutions, called this city their own. It is against this remarkable tradition that we must view the present. The state of West Bengal remains today as one of the last bastions in India, where science as a discipline attracts the best of students to its fold. But, even in Bengal with its fine historical tradition in science, there is much that is disquieting. Indeed, all over India, there are signs that the engine of science in our universities and national institutions is slowing down.

## Science in the Modern World

Pure science requires no justification outside itself and its usefulness has no bearing on its validation. (P.B. Medawar) Science by itself provides no panacea for individual, social and economic ills. It can be effective in national welfare only as a member of a team. But without scientific progress no amount of achievement in other directions can insure our health, prosperity and security. (Vannevar Bush "Endless Horizons", 1946) Over the past fifty to sixty years, science has come to occupy an increasingly important position in scenarios of national development. Vannevar Bush's 1946 enunciation of the path for science, in the post-war United States, has really influenced the course of science in our time.

Broad governmental support of science has been widely accepted, since there is a clear perception that the fruits of technology follow from the careful nature of basic science. To most of us science appears to be a way of understanding the world; technology a way of controlling it. Although, science and technology are two sides of the same coin, there is a commonly held, but unrealistic view, that pure science, applied science, engineering and technology follow one another in a linear sequence. This perception has led both government and the public to have unrealistic expectations on the outcome of scientific research.

In India, the lines dividing science and technology are sometimes sharply drawn. Even at the level of governmental policy the divide is emphasized by the existence of two distinct enunciations of national intent—the Science Policy Resolution adopted by Parliament in 1958 and the Technology Policy Statement of 1983. In the 1958 resolution, authored largely by Jawaharlal Nehru, India committed itself to the support of science, recognising that 'technology can only grow out of the study of science and its application. To many, science appears to embody the 'pure' sciences taught in colleges and universities and researched in quiet and unobtrusive institutions. Very few realise that connections may exist between research and teaching on the one hand and the many practical and seemingly obvious advantages of applicable advances in science, on the other. Technology is more clearly perceived and assessed. A.P.J. Abdul Kalam clearly emphasised the differences: 'Technology, unlike science, is a group activity. It is not based on an individual intelligence, but on the interacting intelligence of many'. *(Wings of Fire, Universities Press, 1999, p.169)*

In considering science today, I would particularly like to emphasise the state of science teaching and research in our Universities.

## Science in the Universities

My definition of a University will be broad. It will include the many 'deemed universities' and the national laboratories where large numbers of PhD degrees are generated, sometimes with limited academic responsibility. Teaching and research are two sides of the same coin, but in our surroundings these activities are often divorced from each other. In assessing basic research output, one imperfect parameter has been the quality of scholarly publications that are indexed and counted in international databases, most notably the Science Citation Index of the Institute for Scientific Information, Philadelphia. A disturbing recent analysis has shown that over the 20 year period of 1980-2000, India's published output has remained stagnant, while countries like China, South Korea and Brazil appear to be showing a marked upward trend of output. The interpretation of such statistics can be questioned. We might remind ourselves of the famous aphorism attributed variously to Benjamin Disraeli or Mark Twain : "Lies, damned lies and statistics". But, beneath the many doubts that we may all have on the methods of quantitating scientific output, we might still have a lurking suspicion that the engine of the scientific enterprise may be stalling. For those in the Universities across this country, this conclusion may only confirm a fact, which is increasingly well known; the steady, inexorable decline of the status of science and departments of science in Universities over the past 30 years or so.

Tables 1 and 2 provide some interesting data culled from the Department of Science and Technology's publication, R & D Statistics, May 2002.

**Table 1 : Growth of Universities**

| Year | Number of Universities | Deemed Universities | Colleges | Enrolment |
|---|---|---|---|---|
| 1980-81 | 116 | 12 | 4722 | 27,52,437 |
| 1990-91 | 152 | 29 | 7346 | 49,24,868 |
| 1999-00 | 189 | 42 | 11831* | 77,33,612 |

*Estimate

**Table 2 : Teaching Staff 1998-99**
**(University Departments and University Colleges)**

| | |
|---|---|
| Professors | 18143* |
| Readers | 46038 |
| Lecturers | 13205 |
| Demonstrators | 1499 |
| Total | 78,885 |

The total number of SCI indexed publications from India annually is about 13,000 and this includes all our national laboratories and institutions. Clearly, an overwhelming majority of Professors and Readers in Universities do not undertake research activities; emphasising the growing divide between the teaching of science at post-graduate level and the practice of science.

The decline of the universities as a cradle for science has been so marked that many commentators have been extraordinarily harsh in their assessment. An editorial that appeared in 'The Hindu' several years ago, (January 7, 1994), on the occasion of a Science Congress, summarizes the criticism: "............A lot of deadwood has got entrenched in the University system with faculty being unable to cope with rapid strides in science and technology and relying solely on outdated knowledge". Commenting on the students who are trained in institutions on the decline, the editorial noted that "......................Products in a majority of cases emerge out of the higher educational institutions as intellectually emaciated individuals".

These are harsh words, but we would all do well to remember that many institutions of higher learning in our country have entered a stage of terminal decline, buffeted on all sides by political, administrative and financial problems. In striking this note of pessimism, I must of course point out that some of the finest examples of great scientific accomplishments in post-Independence India have indeed been associated with our University system. Two examples which I must cite are the discovery of cholera toxin by Sambhu Nath De at the Nilratan Sircar medical College, Kolkata in the 1950's and the extraordinary work on the structure of collagen and the foundations of protein structure by G.N. Ramachandran at the University of Madras, during a period that spanned the 1950's and 1960's. Sometimes in our midst, men of extraordinary talent and achievement in science have not received their due. Their names are unknown outside a limited circle of specialists. But, it is these men who have contributed more than anyone else to keeping the flag of science flying high in our country.

I might recall Thomas Grey's immortal lines:

*"Full many a gem of purest ray serene,*
*The dark unfathom'd caves of ocean bear:*
*Full many a flower is born to blush unseen,*
*And waste its sweetness on the desert air".*
(Elegy Written in a Country Churchyard)

In recent times the emphasis on science in India has focused primarily on central institutions, national laboratories and the monolithic strategic research departments. The universities have been left to their own devices and in many states, fortunately West Bengal is an exception, there has been a complete downgrading of the science departments in colleges and universities. Students flock to institutions which provide degrees in commerce, management, engineering and medicine. There are few takers for science. The emergence of biotechnology and information technology course in states like Karnataka, where I come from, has almost completely pulled the rug from the traditional science departments.

## Future Challenges

The Indian scientific enterprise draws its talent from the pool of science students graduating from our universities. It is imperative, therefore, to stem the tide of decline and to plot a strategy for restoration of science to its rightful place within our educational system. There are many things one might wish for. I would really like to conclude with a 'wish list', which I hope will strike a chord in many of you who are present here:

(i) Our universities need to steadily recruit new faculty, based on performance and promise. A young dynamic faculty is a pre-requisite to making an academic science department and attractive option for students.
(ii) We need to re-examine our teaching programs to enhance the interdisciplinarity of our own courses, to prepare students for the increasing complexities of modern science.
(iii) Research must be encouraged at all levels and no postgraduate department should be devoid of active researchers.
(iv) Performance evaluation must be toned up. The credibility of any exercise at assessment will be enhanced if we begin at the top. It may be as important to assess the performance of institutional and departmental heads, as it is to evaluate students.
(v) The linkages between national institutions and universities must be strongly forged, with the centrality of the university system being clearly recognised.

Many of the 'wishes' that I have listed have been stated repeatedly in other fora. In the present scenario, the resurrection of science in universities across the country appears to be a forbidding task. But, like all difficult problems, I suspect that the solutions will come from a new generation of academicians. I strongly hope that some of you who are graduating today will lead science in India into a more promising future.

In delivering this address and looking at those of you who are young and on the threshold of a wonderful career, I am reminded of Wordsworth's famous lines:

*"Bliss was it in that dawn to be alive*
*But, to be young was very heaven"*

Science is poised at a remarkable stage of development. Biology, medicine, agriculture, materials science and nanotechnologies are areas where many new and unanticipated fruits of basic research may emerge. I do hope that some of you will participate in the excitement of the science of the future. ❑

## Indian Labour Economics Conference

The 44th Session of Indian Society for Labour Economics was hosted by the Punjab School of Economics of Guru Nanak Dev University, Amritsar recently. A Conference was organised on Indian Labour Economics in the Session. Nearly 400 economists from almost all States of India participated in the conference. Two memorial lectures and more than 20 papers were presented by economists on New Forms of Labour Organisations, Education, Skill Development, Changing Labour Market and Rural Non-Farm Employment in India. Prof. V R Panchamukhi, Chairman of Indian Council of Social Science Research (ICSSR), New Delhi while delivering V.B. Memorial Lecture on the occassion on Responses to the Challenges of WTO: Comparison between India and China said that eversince WTO has been set up in 1995 creating a new trading system, the challenges of development are increasing. He said the world is becoming more and more competitive and the market forces have become the engine of the process. The challenges of development for the countries like India and China are how to prepare themselves to meet the emerging competitive environment. China has made tremendous progress and its growth rate is very high but still WTO is making China worried about its implications. Under this scenario, India and China could work together to prepare a coordinated strategy for negotiation in WTO Forum, he added.

Prof. Panchamukhi pointed out that recently China has agreed to be a co-sponsor for paper manufactured by India. He said that China is also worried about liberalisation of Agriculture and Textile Sectors. There are a lot of commonalities between India and China but important difference in the response of China is that it is taking initiatives to strengthen its domestic activities to prepare itself for competition. He added that China has initiated many steps to make its agriculture, textiles and financial sectors more efficient and competitive. It has also identified many support measures which are consistant with WTO rules and at the same time provides encouragement to domestic activities. He also stated that China has many structural weaknesses like high Non-Performing Assets (NPAs) and is seriously worried about these weaknesses. Hence India and China could work together to meet the challenges of WTO, he suggested.

In the Radhakamal Mukherjee Memorial Lecture on Borderlands of Economics: Institutions, Politics and Culture in the Explanation of Economic Change, Prof. John Harriss from London School of Economics, London said that the enforcement of Labour Laws in India is very poor. He was of the view that Institutionalised sanctions and incentives are weak because of the absence, or the weakness of generalised morality in Indian society. The problem of business management in India in the context of economic globalisation is that of bringing about a change in the institutional framework and in business behaviour, but in a context in which these changes confront the culture of selective trust. Change is taking place now, but only against the resistance that derives from the strength of selective trust. Dr. Harris further said whether or not the rules of corporate governance in India will be changed depends upon the outcome of a power struggle between different fractions of Indian business and their political supporters and on deeper changes in habits of thought and behaviour.

Speaking at the technical session on New Forms of Labour Organisations, Mr. Sukhdev Singh Kokrikalan, General Secretary, Bhartiya Kissan Union (EKTA) delineated the crisis in which the peasantry of Punjab has been thrown. He opined that the peasantry has been trapped in an unending cycle of debt and is also not, getting appropriate remunerative prices for its products. While giving the solution for this crisis, he emphasised upon a protracted struggle against the new govemmental policies and sustained efforts for the establismentof a democratic cooperative agriculture. Prof. Gopal Iyer spoke about the civil society and social protest movements while Dr. Amarjit Singh Sidhu presented his views on Trade Unions. The session was chaired by Prof. Manoranjan Mohanty of Delhi Universitiy. Dr. Dinesh Awasthi (Ahmedabad), Mrs. Rashmi Aggarwal (Delhi), Dr. M. Satish Kumar (Delhi), Prof. S.P.Singh (Roorkee), Ms. Neetha N (Noida), Dr. Vandaha Prashar (New Delhi), Dr. Vijay K. Seth (Delhi) Dr. Anoop K, Satpathy (Noida), and Dr. Partha Pratin Sahu (New Delhi) also presented their papers on Education, Skill

Development and Changing Labour Market.

There was panel discussion of eminent economists and trade unionists on the recommendations of the Second National Labour Commission. Mr. Sat Pal Dang of AITUC, Dr. Subhash Sharma, President, INTUC, Punjab, Mr. Chander Shekhar, President of CITU, Punjab, Prof. Ruddar Dutt of University of Delhi, Prof. C.S.Vikranta of Delhi, Prof. C.P.Thakur of Delhi, Mr. Surinder Singla, Chairman, Committee on Economic Reforms, Punjab participated in the discussion which was chaired by Prof. L.K. Deshpande, University of Mumbai.

The general consensus of the Panel Discussion on the recommendations of the Second Law Commission of the Indian Society of Labour Economics revolved around the anti-worker nature of these recommendations and was also for a further reappraisal of the entire issue of Industrial Relations before implementing them. The main emphasis of the Panel Discussion was upon the twin issue of labour flexibility and the powers of 'hire and fire' given to the Employers/Managements. The labour flexibility in the context of the formulations of bodies like West Bank means a shift from permanent labour to contract labour. The panelists were of the view that the practice of contract labour would not work in an under-developed country like India which lacks the basic social security.

Mr. Sat Pal Dang said that the commission was specifically designed to make recommendations not in favour but against the labour and therefore called for its rejection. He was of the view that the objective of the Commission was to decrease the labour cost further in the name of increasing the productivity. Mr. Dang was also critical of the Labour Commission for giving Social Security of the workers in the hands of private employers only. Prof. G. S. Bhalla, Professor Emeritus of Jawaharlal Nehru University, Delhi was categorical in looking at the recommendations of Labour Commission as an outcome of the entire process of globalisation conceived by the Conservative Prime Minister of Great Britain, Mrs. Margret Thatcher and the so called Washington Consensus (W.C.).

Prof. Ruddar Datt, former Principal, College of Correspondence Courses, University of Delhi and known expert of Indian economy and Trade Union Movement lambasted the recommendations of Labour Commission as efforts for legalizing the policies of 'hire and fire' in the name of rationalising the laws concerning the labour. He also criticised the concept of managerial remuneration as it does not help in increasing the efficiency of any entreprise.

The, newly instituted 'Sanjay Thakur Young Economist Award' for the year 2002 was presented to Dr. Deepak Kumar Mishra from Arunachal Pradesh for his best paper presentation during the conference. Prof. T.S. Papola, President of ISLE conferred this award upon Dr. Mishra. Prof. T.S.Papola, the present President of the ISLE has been elected for another term of three years in recognition of his commendable services done for the society. Prof. G.K.Chadha, Vice Chancellor of JNU Delhi has been elected as Conference President of 45th Session to be held at Jadavpur University, Jadavpur (Kolkata). Prof. H.S. Sidhu, Guru Nanak Dev University, Prof. Sucha Singh Gill, Punjabi University, Patiala, Prof. D.N. Reddy, University of Hyderabad have been elected as Vice-presidents and Prof. C.S. Venkataratnam of Institute of International Management, New Delhi was elected as Secretary. Prof. S.K. Singh of Indira Gandhi National Open University, New Delhi has been taken as Treasurer.

The Society President, Prof. Papola declared the themes of the 45th Conference as 'Changes in the World of Work', 'Changing Structure of Indian Work Force' and 'Emerging Patterns of Industrial Relations'. Addressing the economists of the country, Dr. S.P. Singh, Vice Chancellor said that the conference was held when the country was experimenting with new economic policy which has far reaching consequences for all the segments of Indian Economy. He hoped that the conference would contribute significantly to future policy formulation for a holistic development of Indian economy.

## International Conference on Asian Identity in Literature

A Four-day International Conference on Asian Identity in Literature was held at Dhvanyaloka, Mysore, to commemorate the birth anniversary of Dr. C.N. Sanjay, a young teacher of great promise who taught English and Commonwealth Literature at the University of Mysore before he passed away in 1985 at the age of 29. The Conference envisaged the objective of exploring the common Asian identity and heritage that brought together scholars from abroad as well as from many parts of the country. Prof. C. N.

Srinath, Associate Director, Dhvanyaloka remarked in his Welcome Speech that the Conference which facilitated a return to the roots of human civilisation and culture was a minor historic moment as it was focussing attention on a most neglected area.

Prof. C. D. Narasimhaiah, Director, Dhvanyaloka also admitted to a sense of guilt, personal as well as national over the significant omission of Asian Literatures from the literary pursuits in spite of the fact that it was in Asia that civilization had its genesis so also all the great religions of the world. He felt sad that the word Asia, was not used by us either as noun or adjective to express an emotional togetherness even if Emerson, a far-off American might have used it compulsively when he looked upon Asia as the 'nurse of man' and 'bower of gods' and might even have called his wife Lydia 'Mine Asia' and Yeats might have felt prompted to prophesy that the next 2000 years 'shall mark the ascendancy of Asia'. Prof. Narasimaiah ranged through the entire Asian continent as it were sharing his vast and abundant experience drawn from his readings as well as travels.

The 5-member team from the National University of Singapore (NUS) was led by Prof. Edwin Thumboo, leading poet and Dean, Centre of Arts, NUS. He was also and the author of Ulysses by the Merlion which Prof. Narasimhaiah praised for not merely being a distinguished poem but also providing a primordial poetic in present-day language. Singapore, the land of the lion represnted as Asia in miniature was evident in their deliberations. Prof. Thumboo underlined the importance of discussing the subject of Asian Identity even as he advocated less of internationalism and more of nationalism to fight the ill-effects of globalisation in his Inaugural Address.

Papers covering the literatures of as many countries as Singapore, Sri Lanka, Nepal, Persia, Japan, Thailand, Indonesia, Russia, Pakistan and Kyrgyzistan were presented. Asian ethos were amply reflected in these discourses. Prof. Jafri, poet, critic, translator and scholar in Persian, Urdu and Hindi remarked that the beauty of the seminar was that it permitted several perspectives—Indian, Sri Lankan and the list could go on to provide a 'window' on these hither-to less known and sometimes even unheard of writings, whether a 1000 year-old epic like *Manas* from Kyrgyzstan or a novel from Russia if not some Noh play from Japan or the Letters of a mystic like Khalil Gibran of Lebanon or the poetry of our next-door neighbour Nepal hidden from our view by the mighty Himalayas. In addition to these there were presentations on partition novels, controversial novels, feminist novels, ghazals and Singapore, Chinese and Thai writings etc.

Understandably in the course of these discussions spanning nearly 30 papers the term Asian Identity itself became a debatable point with some participants taking exception to the word Asian (a spatial signifier) which for them implied a monolithic image while others justified it as desirable and even necessary in the face of western domination. However, there was no second opinion about the imperativeness of moving away from a European perception of ourselves.

An important landmark of the conference was the drafting of a composite syllabus for post-graduate courses in Asian Literature in the recognition that the syllabus had to be re-oriented to suit our needs. It was also decided to launch a web site on Asian Literature.

### Refresher Course in Mass Communication

Academic Staff College Jamia Milia Islamia, New Delhi conducted recently a three week Refresher Course in Mass Communication in which 30 teachers from 10 states participated. A course design committee was constituted consisting of Prof. Habibur Rahman Kidwai, Director, Mass Communication Research Centre (MCRC), Prof. M. Akhtar Siddiqui, Director Academic Staff College, and Ms. Mira Aghi, Senior Consultant, UNESCO to chalk out the course content of the programme. At the inaugural function, Mr. G. Krishnan the CEO of Aaj Tak was the Chief Guest who was recently nominated as the Best CEO for 2002 and Aaj Tak was nominated as the best Channel. He discussed the strategy followed by Aaj Tak and how they use the space available on the Television screen.

Mr. B.P.Sanjay, the Director of the IIMC spoke on the importance of the refresher course and the changing phases of communication. The Chief of Bureau of Radio China, Ms. Zhao Yo Hua, spoke about the kind of programmes she was producing and about the School of Communication in Beijing from where she had qualified to become a radio professional. Ms. Rashmi Doraiswammy gave an introduction to film studies with emphasis on the Russian Cinema. Prof. R. Govinda, a Senior Fellow at NIEPA discussed Futuristic Education and Globalization. Ms Pemilla Berlin, the Technical Officer at UNAIDS spoke about the Challenge of AIDS. Mr. Michael Veda Shiromani, IAS, from the Red Cross discussed the role of the media in Disaster Management. Mr. Paul Danahar, the Chief of Bureau of BBC explained the problems of sending across an on -camera live-hook up from Delhi and the cost involved. He also explained how a story could be sent across using a Satellite phone and how the BBC insisted on breaking news with credibility. Mr. Toru Ohara, the Bureau Chief of the Japanese T.Vs NHK channel spoke about their set up in India and how Japanese TV was slowly going to change HDTV. Mr. Sanjay Hazarika, a Senior Research Professor at the National Institute of Policy Planning and also a correspondent for the NYT spoke about the reports on the North East in the NYT and the ground reality.

Mr. T.S. Mohan Krishnan, the Associate Vice President of the Indian Market Research Bureau discussed how the TRP ratings are done and informed that this had now been changed to TAM (Television Audience Measurement, Mr. Satinder Bindra, the Chief of Bureau of the CNN sent a chill down the spine with his story about the confrontation with the Taliban in Afghanistan. He narrated how he had developed a nose for sniffing out the arrival of a cyclone and how he blew out $ 25000 and came back without a story. Mr. Mahesh Rangarajan, a Nehru fellow spoke about the role of research and the coverage of Indian politics on Television.

From the print media Mr. Baldev Sharma, the Editor of Amar Ujjala highlighted about the problems of the vernacular press and how some press persons were misusing the powers of the press in the rural areas. Mr. Siddharta Vardarajan, the Dy. Chief of Bureau from the Times of India spoke about the strategies adopted by the TOI and the market forces who were deciding things on behalf of the editor. Ms. Pamela Philipose from the Indian Express dealt with the representation of women in the press through the decades and other related issues. Mr. Dilip Cherian, the Managing Partner of Perfect Relations made a presentation on the use of Media in Public Relations and how he manages the images for who-ever gives him a cheque for his services.

Ms. Vineeta Deepak, the Chief of Bureau of the Associated Press showed some clippings from the news coverages of stories shot in Kashmir and gave an insight into the workings of the Associated Press. Dr. Namita Ranganathan discussed the psychology of Television viewing in terms of the adolescent experience. Mr. Krishna Kumar, a leading Supreme court Advocate spoke about Media Ethics and the freedom of the press. Mr. Neresh Bedi, the most well known wild life filmmaker in India shared his experience of making wild life films. He also showed a recent film produced by him and the problems of being able to recover the cost of production from the market.

Mr. Nanda Kumar who works as a cameraman for the BBC discussed the various types of cameras that he had used to get broad cast quality images and the inherent problems of each .of these cameras. Mr T.K.Thomas a media consultant who spoke about community radio as being the new thing. Ms. Shikha Jingan told about her work involving comics and folklore. Ms. Ira Bhaskar discussed the dramatic structure in narrative cinema. Dr. Abhilasha Kumari from IIMC touched upon communication research. Ms. Shohini Ghosh did a long session on documentary cinema.

During the course, a two day workshop was jointly conducted by Dr. Binod Agarwal from the Taleem foundation and Ms. Mira Aghi, a behavioural Scientist and UNESCO Consultant. The issue of sensitising the audience and how they pre-test a programme before it is actually shown and the impact of broadcasting it in South Asian countries was discussed at length. A two-day workshop of the non-linear editing equipment which has just been installed at the AJK. MCRC was conducted in to give the participants a hands on feel of the machine. Prof. Ashok Nagpal a well known Psychologist and faculty member at the University of Delhi made an attempt to discuss the psyche of people who perpetrate violence. Prof. Devesh Kishore made a presentation on IGNOU to the participants who were taken out on an educational tour to visit the IGNOU.

During the course, participants completed three assignments on book review, research proposal development and seminar paper writing. The papers were presented by each participant in the in-ouse seminar organised by the Academic Staff College.

Mr. Shahid Mahdi, Vice Chancellor, Jamia Millia Islamia was the Chief Guest of the valedictory function. Mr. B. Diwaker presented the report of the Refresher Course at the valedictory function.

### International Conference on Teaching Strategies

In active collaboration, with Gandhi Darshan, Rajghat; Central Hindi Institute, Agra; NCTE; NIOS and NCERT, the All-India Association of Teacher Educators (AIATE) organised its third Annual and first International Conference recently. Some 75 delegates attended it. The number of papers sent exceeded 40 to which British and American scholars contributed a few. The focus of the discussion was present methodologies taught to be practiced in the school system by the teachers' colleges and the changes that were likely to overtake them soon. The paper submitted by the Chairman, NCTE pointed out that it is possible to train prospective teachers through virtual classroom mode by adopting multi-media technology. With the help of newly developed software it has now become possible to teach in several accents and languages simultaneously across several States and even continents. The AIATE arranged two Memorial Lectures -one on J.P.Naik and the other on Dr. Zakir Husain. The Director, Kendriya Hindi Sansthan, Agra Prof. N. N. Pandey delivered the J.P.Naik Memorial Lecture and Prof. Abdul Haq of the Jamia Millia Islamia the very institution visualized and nurtured by Dr. Husain, delivered Dr. Zakir Husain Memorial lecture. Sri M.G. Vaidya delivered the Inaugural address and Prof. V.C. Govinda Raj an American professor of Law gave the valedictory address. The Intel Group, engaged in improving classroom was given a time slot to talk about their newly developed system that is directed to improve classroom practices in order to enhance student learning. They have their own steps and ideas about improving actual lesson plans. The number of universities, which the Intel group has approached and persuaded to adopt their methodology, is substantial. The session was presided over by Prof. K.G. Rastogi.

Prof. S.P.Singh, an American Scientist made a presentation on teaching methodology. Without any pedagogical background he has developed a lesson plan with eight steps, which has proved immensely effective. The other paper which, received accolades was by Prof. Suman Gupta from Open University in the U.K on the topic 'Teaching the Strategies for Open Learning. The Association has decided to get these submissions widely circulated for consideration by various universities. The General Body of the Association adopted several resolutions and directed the General Secretary Dr. Gopal Rana to send to the appropriate authorities.

The Association will organise its next International Conference in collaboration with the Central Hindi Institute, Agra with Prof. N.N. Pandey as Conference Chairman. The Association in its General Body meeting co-opted Professor Pandey as member of the Executive Body. The theme for the next Conference would be Communication - its nature, functions and forms. The dates of the Conference would be December 26-28, 2003 and the last date for sending papers is September 30, 2003. The papers could be in either Hindi or English and be submitted on floppy with a hard copy directly to Dr. Gopal Rana, the Conference Organising Secretary - Pocket A-4/206, Kalkaji.Ext. New Delhi-1 10019. E-mail ID-rpsingh2@vsnl.net tel. 20063612, 260930623, 27873232, 26205220, 09897009446

## SASTRA- Swiss German University Tie-up

A Memorandum of Understanding (MoU) has been signed between the Shanmugha Arts, Science, Technology and Research Academy (SASTRA) and Swiss German University which provides for exchange of students and staff, industrial training progammes in European industries etc. This MoU also provides for the constitution of a Research Wing in SASTRA for identifying research and development projects in the field of Mechatronics.

While signing the MoU, Prof. Jurgen Gruneberg, Dean of Engineering Faculty, Mechatronics, of Swiss German University, stated that the laboratories to be set up at SASTRA will be a benchmark for Mechatronics programmes in the country as a whole. Prof. Jurgen Gruneberg emphasised the applications in Mechatronics in consumer electronics like Cameras, Robotics, Intelligent Transport Systems, Textile Industries etc., The field of Mechatronics offers a wide scope to the engineers to work in the area of System Architecture, Technical Design, Implementation Engineering, Component Development and Interdisciplinary Modeling. He laid emphasis on the importance of Mechatronics in the field of medicine. He also spoke of the problems involved in transit of passengers from the Shangai airport to city in China and explained the advantages of introducing the trans rapid vehicles, which involves Mechatronics applications.

Representatives from SIEMENS were also present on the occasion and promised all cooperation and help in setting up state-of-the-art laboratory facilities in SASTRA campus. This will be a tripartite venture, with SASTRA University, Swiss German University and SIEMENS, being the partners.

The Swiss German University is sponsored by German Government and German Industries, and in a joint effort between Germany, Austria and Switzerland with the aim of providing skilled graduates to fulfill the need of qualified human resources to strengthen the link between Asia and Europe.

The MoU also provides for expanding the scope for introducing different programmes like Hotel and Tourism Management as the School of Hotel and Tourism Management, Switzerland, is also a partner in Swiss German University.

### National Conference on Material Science

A National Conference on Recent Advances in Materials Science was organised in the Post Graduate and Research Department of Applied Physics, Nehru Memorial College, Puthanampatti (TN), Tiruchirapalli recently. Prof. P. Ramasamy, Director, Crystal Growth Center, Anna University, Chennai, inaugurated the conference and delivered the keynote address. In his inaugural address he said that in olden days there were no experimental studies and only theories dominated the researches in science. But today experiments have taken the center stage. Any idea put forth theoretically should be proved experimentally also in today's environment. The researches in our Country are not supported by local technology. Technology is being imported to perform our work. Research cannot be effective if we are not applying local technology. The conference proceeding was released by Prof. Lalitha Sir Deshmukh of Kakatiya University, Warangal.

During the two days conference Prof. H.L Bhat, I.I. Sc., Bangalore, Dr. R.Govindaraj, IGCAR. Kalpakkam, Prof. R. Dhanasekaran, Anna University, Chennai, Dr. G. Saraladevi, IICET, Hyderabad, Prof. J. Koshy, RRL, Trivandram and few other professors delivered the invited lectures on various topics of thrust areas of Materials Science. Nearly 175 participants from all parts of the Country took part in the two days deliberations. Thirty-five research papers were presented in the oral session and sixty-five papers were presented in the poster session. Earlier Dr.S. Ramalingam, Principal, Nehru Memorial College welcomed the gathering. Dr.V. Krishnakumar, Convenor of the conference proposed vote of thanks.

The conference was partially funded by the Defence Research and Development Organization (DRDO), New Delhi and the Council of Scientific and Industrial Research (CSIR), New Delhi.

### Edulinks Website

Edulinks, a new website for developing partnerships in education and training between the UK and India, was launched recently, by Mr. Edmund Marsden, Director, British Council. A CD-ROM of the website, which freezes all the information available on the website until 30 September 2002, was also released on the occasion.

British Council, India has developed the website with funding from Trade Partners UK. The website is intended to be a virtual meeting ground for all those interested in establishing, promoting and exploring educational partnerships between the UK and India. The website is designed to act as a catalyst to help educational institutions in India and UK develop partnerships with the aim of delivering joint education programmes ; developing joint curriculum and research projects; facilitating faculty and student exchanges; establishing school and higher education links; organising international seminars and conferences, as well as providing a whole range of; networking opportunities between FE and HE Institutions in the UK and their counterparts in India. Currently, 200 Indian institutions and 62 UK institutions are registered on the website.

An inward mission consisting of representatives from 10 -12 Indian Institutions who have the resources to develop a partnership with UK institutions will be held in which a selected group of institutions, keen on joint delivery of UK education and training programmes in India make presentations about their respective institutions and what they have on offer for the new and emerging models of learning in the 21st century. For further details, log on to www.edulinksuk-india.org

### IGNOU Courses at Uzbekistan

A high level delegation led by HE. Mr. S.S. Gulonov, Minister of Higher and Secondary Specialised Education, Government of Uzbekistan, visited Indira Gandhi National Open University (IGNOU) to explore the possibilities of mutual exchange of Faculty and Students. The delegation showed interest in the courses of IGNOU in the areas of Information Technology. The delegation included Dr. R. Khalmurdov, Rector, Samarkand State University, Dr. S. Kasimov, Rector, Tashkant University of Information and Technologies and Dr. R. Tadjiev, Rector, Ferghana Polytechnic Institute.

Prof H.P. Dikshit, Vice Chancellor of IGNOU, expressed the hope that this visit will lay the foundation for cooperation and joint action to support the development of education and training in the areas of Information Technology, Distance Education and

E-learning. The delegation evinced keen interest in the Distance Education activities and also expected joint research programmes between the two countries. The Minister also welcomed visit of Indian delegation to Uzbekistan, so that cordial educational relations would be developed.

The delegation visited the Electronic Media Production Centre (EMPC) of the University. Mr. Gulonov, appreciated the infrastructure, course materials of IGNOU and expressed hope that the two countries will have closer co-operation.

### Consortia-based Subscription —INDEST

The Ministry of Human Resource Development (MHRD) has set-up a 'Consortia-based Subscription to Electronic Resources for Technical Education System in India' on the recommendation made by an Expert Group appointed by the ministry under the chairmanship of Prof. N. Balakrishnan of IISc Bangalore. The consortium is named as the Indian National Digital Library in Science and Technology (INDEST) Consortium. The Ministry of Human Resource Development (MHRD) would provide finds required for subscription to electronic resources for 38 institutions including IISc, IITs, NITs, RECs, IIMs and a few other institutions to the consortium headquarter set-up at the IIT, Delhi. While the expenditure on electronic resources proposed for subscription under the consortium for selected institutions would be met from the fonds made available by the MHRD, the consortium being an open-ended proposition, welcomes institutions to join it on their own for sharing maximum benefits it offers in terms of lower subscription rates and better terms of agreement with the publishers. All electronic resources being subscribed shall be available from the publisher's Website. Local hosting of resources has not been considered at this stage.

The membership of the consortium is open to any Private or Government-funded Engineering/ Technological Educational institutions / Universities for one or more electronic resources. The consortium will charge nominal annual fee for the services. The e-resources that can be subscribed through the INDEST Consortium include *full-text sources* such as IEL Online; Springer's Link; Applied Science and Technology Plus (ASTP); ABI/Inform Complete; ACM Digital Library and *Bibliographic Databases* such as compendex (1970+)/INSPEC (1969+); Math SciNet; JGATE Online; J-Gate Online with CD-ROM back-up.

For further details visit the website of INDEST Consortium at: http://www.library.iitb.ac.in/indest. Suggestions and Feedback may be addressed to Dr. Jagdish Arora, National Coordinator, INDEST consortium, Librarian, Indian Institute of Technology Bombay Powai, Mumbai-400076, E-mail:Jarora@admin.iitb.ac.in or Shri Pawan Agarwal, Director, Ministry of Human Resource Development (MHRD), Department of Secondary and Higher Education, Shastri Bhawan, "C" Wing, New Delhi-110001, E-mail:pagarwal@sb.nic.in. ❑

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### We Congratulate....

**Prof. Amitabh Mattoo, who has taken over as the Vice Chancellor of University of Jammu, Jammu (Tawi).**

**Dr. C Ramasamy, who has taken over as the Vice Chancellor of Tamil Nadu Agricultural University, Coimbatore.**

**Dr. D Nagaraja, who has taken over as the Vice Chancellor of National Institute of Mental Health and Neuro Sciences, Bangalore.**

**Prof. Lokesh Bhatt, who has taken over as the Vice Chancellor of Rajasthan Vidyapeeth, Pratapnagar, Udaipur.**

**Dr. P P Singh, who has taken over as the Vice Chancellor of Sardar Vallabh Bhai Patel University of Agriculture and Technology, Modipuram, Meerut.**

**Shri Subhash Sarnikar, who has taken over as the Vice Chancellor of ICFAI University, Raipur.**

**Shri Santosh Choubey, who has taken over as the Vice Chancellor of Dr. C V Raman University of Science, Technology, Commerce and Management, Raipur.**

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### Change of Dates

The dates of Second National Convention of Accredited Institutions scheduled to be organized by NAAC during 17-19 January, 2003 (University News, Vol 41, No.01, P.22) have been postponed. The new probable dates will be in March 2003. The participants who have already sent their registration/papers will remain valid. For further details contact Dr. Naresh Chandra, Chairman Organising Committee, Second National Convention of NAAC Accredited Institutions, V G Vaze College, Mulund East, Mumbai 400 081 Phone: 022-5681004, 25671422/23, Fax: 022-23914262 *Web site: www.sncai.com Email: sncai@hotmail.com*

## National Workshop on Organic Animal Husbandry Standards

A two-day National Workshop on Organic Animal Husbandry Standards was held at the Indian Veterinary Research Institute, Izatnagar recently. The workshop was organised to sensitise different stakeholders about the organic farming and to review the standards developed by Government of India for organic animal husbandry, It was attended by 170 delegates representing State animal husbandry departments. SAU's, ICAR Institutes, NGO's, Industry, etc.

Speaking as the Chief Guest during the inaugural session, Dr. Mahendra Pal Yadav, Director, IVRI, said that organic animal husbandry standards, an offshoot of organic agricultural system, requires immediate sincere consideration in view of the requirements of the country. Referring towards the standards developed by the European Union, he said that though they follow a common standard in the sphere of agriculture, each member of European Union has taken care of their interests. Dr. Yadav said that it is very imperative to protect our interests while preparing the touchstone criteria of organic animal husbandry standards. It is also not indispensible to accept the standards set by developed countries in toto. Initially we should develop standards for internal use in India itself.

Dr. Yadav suggested to use fertilizers, pesticides as well as insecticides in minimum quantity without compromising on the yield till the organic agriculture becomes sustainable. In the event of illness, medicines need to be used judiciously and in the case of antibiotic, he suggested to use it in a very restrictive way, if organic production has to be done. He said that in the course of preparing the organic animal husbandry standards, not only the production/processing but products should also be kept into account to protect the interests of landless livestock owners.

Guest of honour, Dr. Manoranjan Kalia, Dean, Home Science College, Agriculture University, Palampur, said that considering the rules and regulations of the World Trade Organisation, first grade raw materials should be used for the production of meat and poultry products. He belived that no food is fully free of infections and advised to use fertilizers in a controlled manner. Dr. Kalia hoped that whatever standards for organic animal husbandry be made, should be done unanimously.

Dr. Rajvir Singh, Director, Central Avian Research Institute, said that the livestock products require natural resources and environment. He suggested not to use artificial fertilizers and chemicals in order to reduce the pollution level in soil, water, food, environment, etc. Taking into account the existing conditions, organic animal husbandry standards are sine-qua-non.

The national workshop comprised of two technical sessions and plenary session which suggested measures to review the already prepared standards in the concerned field by the government of India. During the plenary session, it was suggested that education and training of stakeholders along with testification need to be emphasised.

Dr. Mahesh Chander, Senior Scientist and Convenor of workshop, opined that the development of a country highly depends on its exports in agriculture and livestock. Organic production holds the key for sustainability, environmental protection and productivity in the present day scenario.

## Dr. Shiv Mangal Suman Passes Away

Dr. Shiv Mangal Suman (1916-2002) passed away recently on 27th November 2002 at the age of 86. Dr. Suman was one of the major Hindi poets of the post chhayawad age, intimately linked with progressive ideology. He has written a large body of lyrics. He taught at colleges in Indore and Ujjain; served as Principal of Madhav College, Ujjain; Vice Chancellor of Vikram University, Ujjain; and Vice President of Uttar Pradesh Hindi Sansthan, Lucknow. He was the President of AIU during 1976-78.

# THESES OF THE MONTH

## A list of doctoral theses accepted by Indian Universities
## (September - October, 2002)

### AGRICULTURAL & VETERINARY SCIENCES

**Agronomy**

1. Jain, Parveen Kumar. **Forage and seed production on water logged wastelands as influenced by cutting management and introduction techniques.** (Dr B R Sood), Department of Agronomy, Ch Sarwan Kumar Himachal Pradesh Krishi Vishwavidyalaya, Palampur.

2. Subhash Chand. **Studies on the effect of sulphur nutrition on gobhisarson (Brassica napus var.) Oleracea in maize gobhi sarson sequence under rainfed conditions.** (Dr R C Thakur), Department of Agronomy, Ch Sarwan Kumar Himachal Pradesh Krishi Vishwavidyalaya, Palampur.

### BIOLOGICAL SCIENCES

**Biotechnology**

1. Benazir, B. **The role of outer membrane proteins of helicobacter pylori in the host pathogen interaction and genotyping of the Indian clinical isolates.** (Dr Arun Balakrishnan), Department of Biotechnology, Anna University, Chennai.

2. Sabarinathan, R. **Immunoprophylactic potential of an L3 larval stage specific gene, abundant larval transcript-2 (Alt-2), from Brugia Malayi as a protein and DNA vaccine.** (Dr P Kaliraj), Department of Biotechnology, Anna University, Chennai.

**Botany**

1. Deena Singh. **Allopathic effect of andrographis paniculata (Burm.f) Wall, ex. Ness on seed germination and seedling growth of certain crops and weeds.** (Dr Y B Narsing Rao), Department of Botany, Osmania University, Hyderabad.

2. Kadam, Tukaram Angadrao. **Studies on pesticide degradation by free living N fixing microorganisms from Marathwada soils.** (Dr L V Gangawane), Department of Botany, Dr Babasaheb Ambedkar Marathwada University, Aurangabad.

3. Kavyashree, R. **Ivitro morphogenetic studies on mulbery veriety-S54.** (Dr Gayathri M C), Department of Botany, Bangalore University, Bangalore.

**Microbiology**

1. Gomashe, Ashok Vithobaji. **Antibacterial action of citric acid on uropathogens.** *(Dr B J Wadher and Dr Aqueel Khan)*, Department of Microbiology, Nagpur University, Nagpur.

2. Naga Padma, P. **Fermentative production of glycopeptide antibiotic vancomycin by Amycolatopsis orientalis.** (Dr Gopal Reddy), Department of Microbiology, Osmania University, Hyderabad.

**Zoology**

1. Jaleel, Mohammed Abdul. **Invitro toxicity evaluation of some pesticides using certain ciliate protozoa.** (Dr Mohd Masood Hussain), Department of Zoology, Osmania University, Hyderabad.

2. Kale, Monica Kamalakar. **Cadmium toxicity to some physiological activities of freshwater fish and crab: A comparative study.** *(Dr G K Kulkarni), Department of Zoology, Dr Babasaheb* Ambedkar Marathwada University, Aurangabad.

3. Mehta, Nimesh Kisanlal. **Faunastic study of corals from Ocean of Dwarka Okha.** (Dr S K Patel), Department of Zoology, Bhavnagar University, Bhavnagar.

4. Puri, Anju. **Effect of neem (Azadirachta indica A Juss) extracts on growth and reproduction of albino mice.** Department of Zoology, Punjab Agricultural University, Ludhiana.

5. Rumana, Harcharan Singh. **Fish biodiversity in some streams of Western Himalayas in relation to altitude, abiotic factors and stream morphology.** (Dr M S Johal and Prof K K Tandon), Department of Zoology, Panjab University, Chandigarh.

6. Sakara Rao, P. **Eco-biology of glasso gobius giuris (Hamilton) from Gosthani Estuary near Vishakhapatnam.** (Prof L M Rao), Department of Zoology, Andhra University, Waltair.

7. Sudhakar Lal. **Critical studies of invertibrates diversity in Bihar River.** *(Dr Usha Awasthi), Department of Zoology, Awadhesh* Pratap Singh University, Rewa.

### EARTH SYSTEM SCIENCES

**Environmental Science**

1. Khobragade, Kshamadevi Shankarrao. **Physico chemical characteristics of Salim Ali Pond in relation to Plankton.** (Dr S B Wagh), Department of Environmental Science, Dr Babasaheb Ambedkar Marathwada University, Aurangabad.

2. Kulkarni, Sanjay Vasantrao. **Studies on survival and dormancy of airborn microorganisms in the pharmaceutical industries.** *(Dr B N Pande)*, Department of Environmental Science, Dr Babasaheb Ambedkar Marathwada University, Aurangabad.

3. Pradhan, Sunanda Chandra. **Earthworm activity and soil metabolism in soil treated with carbaryl insecticide.** (Prof P C Mishra), Department of Environmental Science, Sambalpur University, Jyoti Vihar, Burla.

**Geophysics**

1. Patro, Bantu Prasanta Kumar. **A magnetotelluric study of crustal geoelectric structure in Western India in relation to seismotectonics of the Deccan Trap Region.** (Dr S V S Sarma), Department of Geophysics, Osmania University, Hyderabad.

2. *Someswara Rao, Mutnuri.* ***Palaeomagnetic studies on some*** **basic volcanics from the North Western Himalayas.** (Dr G V S Poornachandra Rao), Department of Geophysics, Osmania University, Hyderabad.

**Marine Science**

1. Abdussamad, E M. **Population characteristics of prawns in natural and selective stocking systems.** (Dr N Gopinatha Menon), Department of Marine Science, Cochin University of Science and Technology, Kochi.

### ENGINEERING SCIENCES

**Biomedical Engineering**

1. Sumathi, S. **Evaluation of tamarind seed polysaccharide as hydrophilic matrix for controlled delivery of drugs.** (Dr Alok R Ray), Department of Biomedical Engineering, Indian Institute of Technology Delhi, New Delhi.

**Civil Engineering**

1. Aggarwal, Praveen. **Numerical modelling of geogrid reinforced unpaved flexible pavement.** (Dr K K Gupta), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

2. Dutta, Rakesh Kumar. **Alternate low cost materials in ground improvement.** (Prof G V Rao), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

**Computer Science**

1. Pandey, Rajesh Kumar. **Study and design of object oriented softwae complexity metrics.** (Prof Arun Kumar), Department of Computer Science, Rani Durgavati Vishwavidyalaya, Jabalpur.

2. Vidyarthi, Deo Prakash. **Studies of task scheduling aspects of distributed computing system.** (Dr M Lal and Dr A K Tripathi),

Department of Computer Science, Rani Durgavati Vishwavidyalaya, Jabalpur.

### Electrical Engineering

1. Narasimha Prasad, P V. **Reliability investigations of repairable systems: Some case studies.** (Prof K R M Rao), Department of Electrical Engineering, Osmania University, Hyderabad.

### Electronics Engineering

1. Attri, Sanjay. **Codesign for rapid prototyping of ASIC DSP based heterogeneous systems.** (Dr Y C Chopra and Dr B S Sohi), Department of Electronics Engineering, Panjab University, Chandigarh.
2. Dey, Saudas. **Design and development of Cmos analog building blocks relevant to micropower analog hearing aids.** (Dr G Bose and Prof A B Bhattacharyya), Centre for Applied Research in Electronics, Indian Institute of Technology Delhi, New Delhi.
3. Rajesh Kumar. **Investigation into the *running in and steady* state wear processes.** (Prof A Sethuramiah and Prof Braham Prakash), Centre for Applied Research in Electronics, Indian Institute of Technology Delhi, New Delhi.

### Mechanical Engineering

1. Darpe, Ashish Kamalakar. **Dynamics of cracked rotors.** (Prof K Gupta and Prof A Chawla), Department of Mechanical Engineering, Indian Institute of Technology Delhi, New Delhi.
2. Kale, Vinayak Mohan. **Development of heuristic algorithm for vehicle routing problem.** (Dr R V Kulkarni), Department of Mechanical Engineering, Nagpur University, Nagpur.
3. Shashidhara, S M. **Development and property evaluation of CO2 Sand cast aluminium 7075-corundum particulate composite.** (Dr B K Muralidhara), Department of Mechanical Engineering, Bangalore University, Bangalore.

### Polymer Science

1. *Jain, Preeti.* **Studies on phosphorus containing amine hardeners for epoxy resins.** (Prof Veena Choudhary and Prof I K Varma), Department of Polymer Science, Indian Institute of Technology Delhi, New Delhi.
2. Jithendra Balaji, P. **Development and performance analysis of glass mat reinforced epoxy/polycarbonate blend composites.** (Prof A Varada Rajulu), Department of Polymer Science and Technology, Sri Krishnadevaraya University, Anantapur.

### Rural Technology

1. Thimmaiah, Appachandra. **Studies on biodynamic system and vermitechnology for sustainable agriculture.** (Dr Santosh), Centre for Rural Development and Technology, Indian Institute of Technology Delhi, New Delhi.

## MATHEMATICAL SCIENCES

### Mathematics

1. Muktibodh, Pradeep Sharatchandra. **Rotation and space time singularities in general relativity.** (Dr R V Saraykar and Dr S M Wagh), Department of Mathematics, Nagpur University, Nagpur.
2. Shrivastava, Praveen Kumar. **Common fixed point theorems in metric complete metric and pseudocompact tichonov spaces and *their application.*** *(Dr N P S Baba), Department of Mathematics,* Awadhesh Pratap Singh University, Rewa.
3. Sindhu, Baljeet Singh. **Study of reliability of two unit systems with various situations of rest and different repair facilities.** (Dr K C Gupta), Department of Mathematics, Maharshi Dayanand University, Rohtak.

### Statistics

1. Tripathy, Chaitanya Kumar. **Convergence of weighted dependent sequences of random variables.** (Dr S K Acharya), Department of Statistics, Sambalpur University, Jyoti Vihar, Burla.

## *MEDICAL SCIENCES*

### Pharmaceutical Science

1. Jain, Naveen Kumar. **Role of cyclooxygenases and their inhibitors in inflammatory and central nervous system related disorders.** (Prof S K Kulkarni), Department of Pharmaceutical Science, Panjab University, Chandigarh.
2. Shaik, Srinivasa Rao. **Biopharmaceutical studies on itraconazole formulations based on solid dispersions solvent deposited system and cyclodextrin complexes.** (Prof K P R Chowdary and Dr K V Ramana Murty), Department of Pharmaceutical Science, Andhra University, Waltair.

## PHYSICAL SCIENCES

### Chemistry

1. Bondge, Sandipan Prabhurao. **A search for new heterocycles with pharmaceutical values.** (Dr R A Mane), Department of Chemistry, Dr Babasaheb Ambedkar Marathwada University, Aurangabad.
2. Meher, Nabin Kumar. **Some chemoselective esterification *methods and copper(I) promoted rearrangement of 2,2,2-* trichloroethyl esters.** (Dr R N Ram), Department of Chemistry, Indian Institute of Technology Delhi, New Delhi.
3. Nagaraju, A. **Molecular modeling studies on organic solid state reactivity and antileishmanial and antimalarial active compounds.** (Dr J A R P Sarma), Department of Chemistry, Osmania University, Hyderabad.
4. Nancy. **Rationally designed chiral amines and their uses in organic synthesis.** (Dr Sanjay Trehan), Department of Chemistry, Panjab University, Chandigarh.
5. Rohini, V K. **Gene transfer, tissue culture and gene: Expression studies in selected parasitic flowering plants.** (Dr N H Manjunath), Department of Chemistry, Bangalore University, Bangalore.
6. Sivabalan, R. **Defluoridation of ground water: Activated carbon prepared from agricultural wastes.** (Dr V Murugesan), Department of Chemistry, Anna University, Chennai.
7. Vairagade, Dilip Madhukar. **Physico chemical studies of *ash bund effluent of thermal power station.*** *(Dr H D Juneja and Dr* L J Palival), Department of Chemistry, Nagpur University, Nagpur.
8. Yadav, Anil. **Microstructure determination of glycidylmethacrylate copolymers by NMR spectroscopy.** (Prof A S Brar), Department of Chemistry, Indian Institute of Technology Delhi, New Delhi.
9. Zadgaonkar, Alka Umesh. **Studies in co-processing of petroleum residues with other heavy materials for optimum yield and quality of coker products and their mechanism.** (Dr G K Ghoshal), Department of Chemistry, Nagpur University, Nagpur.

### Physics

1. Chawhan, Amarsing Gopalsing. **Spatial distribution of densities of electronic states and ions in the He Cd+laser discharge.** (Dr B H Pawar), Department of Physics, Dr Babasaheb Ambedkar Marathwada University, Aurangabad.
2. Gupta, Mukul. **Preparation and characterisation of multilayers with Fep' Fe superstructure for application as nuclear bragg monochromator.** (Prof Ajay Gupta), Department of Physics, Devi Ahilya Vishwavidyalaya, Indore.
3. Kanjilal, Aloke. **The study of electronic and magnetic properties of quasicrystals.** (Dr Ratnamala Chatterjee), Department of Physics, Indian Institute of Technology Delhi, New Delhi.
4. *Murugkar, Anita Gopalkrishna.* ***Dielectric properties of sea* water.** (Dr M L Kurtadikar), Department of Physics, Dr Babasaheb Ambedkar Marathwada University, Aurangabad.
5. Prasad, T N V K V. **Dielectric and pyroelectric studies on MPB ferroelectric pure and rare earth ion substituted SBNN.** (Prof K Sambasiva Rao), Department of Physics, Andhra University, Waltair.
6. Rawat, Rajeev. **Magnetocaloric and magnetoresistance studies of rare earth intermetallic compounds.** (Dr S S Chaturvedi), Department of Physics, Devi Ahilya Vishwavidyalaya, Indore.
7. Tiwari, Ajay. **Investigations on the thermal noise in single injection solid state diodes with distributed traps in CDDM regime.** (Dr Y K Sharma), Department of Physics, Rani Durgavati Vishwavidyalaya, Jabalpur.
8. Vyas, Preeti. **A theoretical and experimental study of relativistic plasma filled backward wave oscillator.** (Dr K P Maheshwari), Department of Physics, Devi Ahilya Vishwavidyalaya, Indore.

# UNIVERSITY OF HYDERABAD

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The last date for receipt of filled in applications is 15th **February, 2003.**

**Hyderabad,**
**Date: 10th January, 2003**

T.R. Vig
**REGISTRAR**

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# DEVI AHILYA VISHWAVIDYALAYA

**University Campus, R.N.T. Marg, Indore**

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## CORRIGENDUM

With reference to Employment Notice No. Estt./III(2)/2002/3170 dated 7.12.2002 for teaching posts in School of Pharmacy, I.I.P.S. and School of Law, it is clarified that the posts of Professor in School of Pharmacy and Law are permanent. Other Posts are temporary but likely to be made permanent. The last date of receipt of applications is extended to **31st January 2003**. Other conditions remain unchanged.

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MUMBAI
19th January, 2003

Dr. S.K. Bandyopadhyay
***REGISTRAR***

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| | **TEACHING POSTS** | | | | | | |
| | **Faculty of Agriculture** | | | | | | |
| | **Associate Professor.**<br>**Pay scale :-**<br>**Rs. 12.000-420-18,300** | | | | | | |
| 1 | Agronomy | 5 | - | - | 1 (A/C/D) | 1 | 3 |
| 2 | Agril. Botany | 1 | - | - | 1 (A/B/D) | - | - |
| 3 | Agril. Chemistry and Soil Science | 3 | - | 1 | 1<br>1 (A/B/C/D) | - | 1 |
| 4 | Agril. Entomology | 1 | 1 | - | - | - | - |
| 5. | Plant Pathology | 3 | - | 1 | 1 (A/B/C/D) | - | 1 |
| 6 | Animal Science and Dairy Science | 1 | 1 | - | - | - | - |
| 7. | Horticulture | 3 | 1 | - | - | - | 2 |
| 8 | Agril. Economics | 2 | 1 | - | - | - | 1 |
| 9. | Agril. Extension | 1 | 1 | - | - | - | - |
| | **Assistant Professor.**<br>**Pay scale :-**<br>**Rs. 8000-275-13,500** | | | | | | |
| 10. | Agronomy | 3 | - | 1 | - | 1 | 1 |
| 11. | Agril. Botany | 6 | - | 1 | 1 (A/B/D) | 1 | 3 |
| 12. | Agril. Chemistry and Soil Science | 1 | - | - | - | - | 1 |
| 13. | Bio-Chemistry | 1 | 1 | - | - | - | - |
| 14. | Agril. Enotomolgy | 1 | 1 | - | - | - | - |
| 15. | Plant Pathology | 4 | 2 | - | 1 (A/C/D) | - | 1 |
| 16. | Animal Science and Dairy Science | 3 | - | 1 | 1 (A/B/C/D) | - | 1 |
| 17. | Horticulture | 1 | - | - | - | 1 | - |
| 18. | Agril. Economics | 1 | - | - | 1 (A/B/C/D) | - | - |
| 19. | Agril. Extension | 2 | - | 1 | 1 (A/B/C/D) | - | - |
| 20. | Statistics | 1 | - | - | - | - | 1 |
| 21. | English | 1 | 1 | - | - | - | - |
| | **Senior Research Assistant**<br>**Pay scale :-**<br>**Rs. 6,500-200-10, 500** | | | | | | |
| 22. | Agril. Botany | 1 | 1 | - | - | - | - |
| 23. | Plant Pathology | 1 | - | 1 | - | - | - |
| 24. | Horticulture | 2 | - | 1 | 1(A) | - | - |
| 25. | Agril. Economics | 3 | 1 | - | 1 (A) | - | 1 |
| 26. | Agril Engineering | 2 | 1 | 1 | - | - | - |
| 27. | Statistics | 1 | 1 | - | - | - | - |
| | **Junior Research Assistant**<br>**Pay scale :-**<br>**Rs. 5000-150-8000** | | | | | | |
| 28. | Agril. Botany | 6 | 1 | 3 | 1(A) | 1 | - |
| 29. | Agril. Chemistry and Soil Science | 2 | - | 1 | 1 (A) | - | - |
| 30. | Plant Pathology | 2 | 2 | - | - | - | - |
| 31. | Horticulture | 1 | 1 | - | - | - | - |
| 32. | Agril. Extension | 3 | 1 | - | 1 (C) | - | 1 |
| 33. | Agril. Engineering | 1 | 1 | - | - | - | - |
| | **Faculty of Agril Engineering** | | | | | | |
| | **Associate Professor:**<br>**Pay Scale :**<br>**12000-420-18300** | | | | | | |

| Sr. No. | Name of post and pay scale | Total no. of posts | Reservation | | | | |
|---|---|---|---|---|---|---|---|
| | | | SC | ST | DT/NT | SBC | OBC |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 34. | Soil Water Conservation Engineering | 1 | 1 | - | - | - | - |
| 35. | Farm Power & Machinery | 1 | 1 | - | - | - | - |
| | **Non Teaching posts.** | | | | | | |
| 36. | **Assistant Registrar/ Assistant Comptroller Pay Scale: Rs. 7,450-225-11,500** | 2 | 1 | - | - | - | 1 |
| 37. | **Office Superintendent Pay Scale: Rs. 6,500-200-10,500** | 3 | 2 | 1 | - | - | - |
| 38. | **Assistant Superintendent Pay Scale: Rs. 5,500-175--9,000** | 3 | 2 | - | - | - | 1 |
| 39. | **Issue Assistant (Lib). Pay Scale : Rs. 3200-85-4900** | 1 | 1 | - | - | - | - |
| 40. | **Artist-cum-photographer Pay Scale : Rs. 4500-125-7000** | 1 | - | - | - | - | 1 |
| 41. | **Compounder (Vety). Pay Scale : Rs. 4000-100-6000** | 2 | 1 | - | - | - | 1 |
| 42. | **Sr. Tech Assistant Pay Scale : Rs. 5500-175-9000** | 1 | 1 | - | - | - | - |
| 43. | **Technical Assistant (Mech) Pay Scale : Rs. 4500-125-7000** | 2 | 1 | - | - | - | 1 |
| 44. | **Foreman Supervisor Pay Scale : Rs. 4500-125-7000** | 1 | - | - | - | - | 1 |
| 45. | **Dark-Room Assistant Pay Scale : Rs. 4000-100-6000** | 1 | - | 1 | - | - | - |

**Note:** (1) Abbreviations S.C. = Scheduled Caste, S.T. = Scheduled *Tribes, DT/NT = Denotified Tribes/Nomadic Tribes, SBC =* Special Backward Classes, OBC = Other Backward Classes.

(2) The candidates from above reserved categories should belong to the reserve categories notified from time-to-time by the State of Maharashtra.m.

**Qualifications and Experience for the posts Advertised**

**Posts at Sr. No. 1 to 9 and 34 to 35:-Associate Professor**

Ph.D. in respective subject with five years experience in teaching, research or extension education of which two years should be in the cadre of Assistant Professor or its equivalent

**OR**

Master's degree in respective subject with seven years experience in, teaching, research or extension education of which three years should be in the cadre of Assistant Professor or its equivalent.

**Posts at Sr. No. 10 to 21:- Assistant Professor**

Ph.D. in respective subject or Master's degree in respective subject with two years experience in teaching, research or extension education. **Preference will be given to the candidates who have qualified NET conducted by University Grants Commission / Indian Council of Agri. Research.**

**Posts at Sr. No. 22 to 27 : Senior Research Assistant**

Master's degree in respective subject

**OR**

Bachelor's degree in 1st Class with distinction. Atleast IInd Class Bachelor's degree with three years experience as Junior Research Assistant or its equivalent.

**Posts at Sr. No. 28 to 33 :- Junior Research Assistant**

Bachelor's degree in the respective Faculty

**Posts at Sr. No. 36 :- Assistant Registrar / Assistant Comptroller**

(i) *Bachelor's degree in any Faculty of statutory Universities, atleast in IInd Class,*

(ii) 10 years experience of the work of Government/renowned Semi-Government organisation/recognised Universities/ recognised Industrial/educational institutes, local bodies, out of which 3 years experience should be in the rank of Section Officer/ Superintendent or its equivalent/ Stenographer (H.G.)

**Posts at Sr. No. 37:-Office Superintendent**

1. A Bachelor's degree of any Statutory University. Preference will be given to the candidates having degree in IInd Class.
2. Five years experience in the office under the State Government/Semi. Government organisation/Educational Institution/Corporation Co-operative organisation of which atleast three years experience should not be below the rank of Assistant Superintendent/five years experience of Senior Clerk.

**Posts at Sr.No. 38 :- Assistant Superintendent**

1. A Bachelors degree of any Statutory University. Preference will be given to the candidates having degree in IInd Class.
2. Three years experience in the office under the State Government/a large educational Institution/reputed Semi. Government organization Public (Ltd.) Companies/Co-operative organisation/Corporation.

**Post at Sr. No. 39:- Issue Assistant (Lib.)**

i) S.S.C.,

ii) Junior Diploma or certificate in Library Science from Government recognised Institute,

iii) Knowledge of typing is desirable

**Post at Sr. No. 40 :- Artist-cum-Photographer**

1. Diploma in commercial Art or Drawing & Painting in Art of a recognised Institution.
2. Must possess a certificate in Advanced Photography technique/art work.

**Posts at Sr.No. 41:- Compounder (Vety).**

1. S.S.C, or its equivalent,
2. Should have passed L.S.S. course prescribed Veterinary Compounder course or Diploma in Pharmacy.

**Post at Sr.No. 42 :- Senior Tech. Assistant (Mechanical).**

B.Tech. ( Agril. Engineering)

**OR**

Diploma in Mechanical Engineering with 5 years professional and/or teaching experience.

**Posts at Sr. No.43 :- Technical Assistant (Mechanical)**

Degree or Diploma of the recognised University/Institution in the concerned subject.

**Post at Sr.No. 44:- *Foreman Supervisor***

B.Tech. (Agril. Engineering)

**OR**

Diploma in Mechanical/Electrical Engineering with two years experience.

**Post at Sr. No. 45 :- Dark-Room Assistant**

S.S.C. or its equivalent with experience in dark-room work in a reputed studio for minimum three years.

**AGE LIMIT :-**

As on **05.02.2003** for the posts at **Sr.No. 1 to 9 and 34 and 35** sociate Professor) shall not be above 45 years (40 + 5 years with laxation) and for the posts at **Sr. No. 10 to 33 and 36 to 45** shall not be below 18 years and not above 35 years (30 + 5 years with relaxation).

The maximum age limit is not applicable to the persons already in service on regular establishment of this University / Central Government / State Government / Semi-Government /other Recognised Universities.

**Physically Handicapped Persons:-**

The upper age limit prescribed for recruitment is relaxable upto 45 years in case of physically Handicapped Persons, if they are, otherwise suitable and have necessary capacity to perform the duties of the posts.

**Freedom Fighter:-**

The maximum age limit is relaxable by five years for Freedom Fighters and their nominee and this relaxation is applicable to the persons belonging to the reserved categories in addition to the maximum age limit prescribed for the reserved categories.

**Ex-Service-men:-**

The age limit for the Ex-Service men, who have put in not less than six months continuous service in the Armed Forces are allowed to deduct from their age the length of continuous service in the Armed Forces plus three years. In case of disable Ex-Service men, the age limit is relaxed upto 45 years for Class-III posts. The Ex-Service men should submit their applications through the respective District Sainik Board.

The reservation/preference as prescribed by the Government will be given to the Project Affected Persons/ ex-Service men/Earthquake Affected Persons/Freedom Fighters and Apprenctice candidates in Class-III cadres.

The reservation of **3 % for Physically Handicapped Persons** will be given in all posts advertised, irrespective categories as per the Circular No SRV-1097/CR-31/93/XVI-A, dt. 16.3.1999 of General Administration Deptt. Government of Maharashtra.

The reservation of **30 % for Female candidates** will be considered in respective categories.

**How to Apply :-**

Prescribed application forms and other details are available with the Office of the **Registrar, Mahatma Phule Krishi Vidyapeeth, Rahuri. Dist. Ahmednagar, (PIN-413 722)** for sale on working days except Sunday and holidays from **10.00 hrs. to 16.00 hrs.** in person/by post by sending a self addressed envelop ( 11" x 5" ) with postage stamp of Rs. 5 /- (Rs. Five) and **Demand Draft of Rs. 250 /- (Rs. Two hundred fifty)** only drawn in favour of **Comptroller, MPKV Rahuri, Dist. Ahmednagar (PIN-413 722) on State Bank of India. Branch MPKV. Rahuri Dist Ahmednagar (PIN-413 722). (Branch Code No. 3239) / Ahmednagar District Central Co-operative Bank. Branch. MPKV Rahuri - (PIN-413 722) (Branch Code No. 101) Dist. Ahmednagar.**

Payment by Money order /Cash/ Cheque/ IPOs shall not be accepted. The blank application forms will be sold only **upto 28/01/2003** on working days during office hours. The application forms duly filled in, in all respects should reach to this office **on or before 05/02/2003**. Persons applying from outside India, may apply on plain paper giving full details regarding post applied for, their age, qualifications, etc. Payment of application fees will not be necessary in their cases. However, if such candidates are called for interview, they will have to complete all the above formalities including payment of requisite application fees.

The other necessary details will be supplied to the candidate/s alongwith the prescribed application form.

**(B.R.Pardhe)**
**REGISTRAR**

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## MIZORAM UNIVERSITY

AIZAWL: MIZORAM
**Post Box : 190, Gram: MZU**
**Phone: 2342349; Fax: 0389 340313**

No. 3/4/01-Estt/12766-'79
Dated Aizawl, the 9th Jan., 2003.

## *CORRIGENDUM TO EMPLOYMENT NOTICE*

Ref.:
1. Mizoram University Employment Notice No. 3/4/01-Estt/7494-500 dt. 11.2.2002.
2. Mizoram University Employment Notice No. 3/4/01-Estt/8917-32 dt. 12.3.2002.
3. Mizoram University Employment Notice No. 3/4/01-Estt/8166-'82 dt. 17.9.2002.

Attention of all concerned is invited to the following Clarification in respect of Advertisement Notifications mentioned above.

1. **Posts reserved for OBCs**, as shown below, stand withdrawn in view of the UGC's Circular No. F.1-4/94 (SCT) dt. 20.12.2000.

   Re-advertisement of these posts as necessary shall be done separately.

**I. Post Graduate Lecturer's posts:**

| | | | |
|---|---|---|---|
| (a) | Social Work | - | 1 post |
| (b) | Geology | - | 1 post |
| (c) | Psychology | - | 1 post |
| (d) | Forestry | - | 1 post |
| (e) | Mizo | - | 1 post |
| (f) | Placement Officer<br>(to be utilised as Lecturer also) | - | 1 post |

**II. Under graduate Lecturer's posts:**

| | | | |
|---|---|---|---|
| (a) | Zoology | - | 1 post |
| (b) | Statistics | - | 2 posts |
| (c) | English | - | 1 post |
| (d) | History | - | 1 post |
| (e) | Commerce | - | 1 post |

2. Essential Qualifications for Lecturer which read as "Possessed Ph.D degree or who have already submitted their Ph.D thesis within 31st December, 1993" should now read as follows:

   "Possessed Ph.D degree or who have already submitted their Ph.D Thesis within **31st Dec. 2002.**"

   Interested candidates who have submitted applications for such posts to the University may submit a Certificate to this effect.

Sd/-
**P.C. Lawmkunga**
**REGISTRAR**

# NAAC - BARD - SETRAD -TNSCHE

## INTERNATIONAL CONFERENCE ON QUALITY IMPROVEMENT IN EDUCATIONAL SYSTEMS

### 22, 23 February – 2003

The National Assessment and Accreditation Council, Department of Educational Technology- Bharathidasan University, Tiruchirappalli Tamil Nadu State Council for Higher Education and Society for Educational Technology, Research and Development (SETRAD) jointly organize an International Conference on the theme QUALITY IMPROVEMENT IN EDUCATIONAL SYSTEMS on **22nd** and **23rd February 2003**. The International Conference is co-sponsored by NAAC and TNSCHE.

## Themes for the Conference

- Day-1 of the Conference will be earmarked for Accreditation/Post-Accreditational experiences and select papers covering discussions on NCTE/NAAC joint activity for Quality Assurance of Teacher Education
- Quality Improvement in Higher Education. (Including Technical, Medical, Management and Agricultural Education)
- Quality Improvement in Teacher Education.
- Quality Improvement in School Education.
- Quality Improvement in Distance Education, Adult Education and Education for Prioritized Groups.
- Research in Quality Improvement in Educational Systems.
- Subject specific Quality Improvement. (Quality Improvement in Language Education, Social Science Education, Science Education, etc.).

## MAIN SPEAKERS

**Dr. V.N. Rajasekharan Pillai, Director, NAAC**
**Dr. A. Gnanam, Chairman - EC, NAAC**
**Dr. A.N. Maheshwari, Chairman, NCTE**
**Dr. Wolfram Laaser, Academic Director, Fern Univ., Germany**
**Dr. Marmar Mukhopadhyay, Jt. Director, NIEPA**
**Dr. Kommers, Univ. of Twente, The Netherlands**
**Dr. M. Mariappan, Vice-Chancellor, Bharathidasan University**

## Registration and Fees

A Registration Fee of Rs.1500 for non-members/Rs.1000 for life members has to be paid by Demand Draft drawn in favour of Society for Educational Technology, Research and Development payable at Tiruchirappalli, India. Last date for the receipt of the paper with soft copy **27-01-2003**.

## Contact Address

**Dr. R. Karpaga Kumaravel (Conference Secretary)**
**Professor and Head Department of Educational Technology**
*Tiruchirappalli - 620 023, Tamil Nadu, South India*
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